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Working papers are circulated in the language of preparation, to make analytic work undertaken by the staff available to a wider readership. They have received only limited evaluation and do not reflect the views of the Department of Finance. Comments on the working papers are invited and may be sent to the author(s).

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ACTIVE LABOUR MARKET POLICIES: AN EVALUATION

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Executive Summary

The objective of this paper is to provide an evaluation of active labour market policies. We review this issue both from theoretical and empirical perspectives. Approximately 100 domestic and international evaluations of active programs are considered.

In 1993-94 Canada ranked fourth among G-7 and spent about .65 percent of its GDP on active labour market policies. Japan and the United States spent very little while Germany spent the most. Such comparisons should, however, be considered cautiously as definitions of active policies are quite different and arbitrary. For instance, when excluding active spending directed towards apprenticeship programs and measures for the disabled, Canada ranked third among the G-7.

To analyze the effectiveness of active programs, we follow a simple framework. The first requirement of a successful program is that it improves the "matching" of unemployed workers with jobs and improves skills so the qualities of workers better match the needs of employers: this is called the *direct* effect. However, active policies also induce *indirect effects*, which may reinforce or offset the direct effect. For example, taxes needed to finance active programs could reduce employment. "Deadweight" loss and "substitution" are other indirect effects that could substantially offset the direct effect. Deadweight refers to outcomes that would have happened even without the program. Substitution results when participants gain jobs at the expense of others. In addition to these, many other indirect effects are considered in the paper. Given these indirect effects, it is ambiguous whether active policies induce a *net* effect on unemployment that is positive or negative.

Empirical evidence provides information on the effectiveness of active policies. There exist many studies both on Canada and other countries that evaluate the success of active programs. Basically, the empirical literature can be divided into two streams to determine the effects of active programs on the natural rate of unemployment:

(1) studies that directly focus on active programs, both macro and micro economic, in determining their effectiveness.

(2) studies that focus on estimating the natural rate of unemployment, trying to bring in this estimation the effect of active programs.

First Stream of Studies: Focus on Active Programs

Two Canadian macro studies, under the first stream, fail to provide evidence of overall active spending being effective. Corak (1991), using Canadian data,

found that UI-sponsored training does not have an effect on the probability of repeat UI use. He emphasizes there is no guarantee that active programs generate positive net benefits. Baldwin and Johnson's (1995) analysis suggests that when there is a need for training in the market place, the market does seem to work.

There exist a large number of micro evaluations that focus on the success of active programs. These evaluations determine whether a ***particular program*** was successful in improving the labour market performance of program participants. That is, evaluations measure whether the program does, in fact, improve the matching between the qualities of program participants and the needs of employers, thereby inducing a positive direct effect. Evidence of the direct effect is measured by the program's impact on participants' wages, employability or earnings. In addition to measuring the direct effect, evaluations provide some information regarding the incidence of indirect effects, in particular deadweight loss and substitution.

The results of these evaluations show that:

- Program impacts are generally modest in size. Moreover, these modest impacts tend to diminish over time.
- Programs are least effective for the most advantaged participants because it is these individuals that are most likely to perform well without participating in the program.
- More expensive programs generate better results. No cheap training solution has yet to be found.

Some programs were more effective than others. Key characteristics that make some programs effective include:

- Target specific labour market problems. e.g. programs focusing on the disadvantaged, the long-term unemployed.
- Aim to prevent rather than cure labour market problems, e.g. programs preventing long-term unemployment rather than waiting for workers to become long-term unemployed.
- Impart general rather than specific skills as they are more transferable.
- Subsidize employment in the private sector rather than creating temporary jobs in the public or non-profit sector.
- Female participants tend to benefit more from a program than males.

- Wait for periods of buoyant demand because jobs exist. A recent panel on seasonal workers in Canada (1995) stressed that many dollars were being wasted on training people for non-existent jobs.

To give a flavour for program evaluations, the results of five Canadian programs are briefly summarized:

Job Development: Job Development was a program implemented in the late 1980s that targeted the long-term unemployed. This program's aim was to provide employment experience and training to improve the employability and earnings of participants. The results show that the program produced the most favourable results, in terms of a positive direct effect, for long-term unemployed workers who were experiencing the most severe difficulties. In general, employability improved but earnings did not, which is what one would hope for. There was evidence of substitution but this adverse effect is justifiable given the target group is relatively more disadvantaged than the individuals displaced.

Job Entry: Job Entry, also implemented in the late 1980s, targeted youth and labour market re-entrants who were making the transition from school/home to work. Youth typically have a low level of education and job experience. Results show that the program was quite successful in producing a positive direct effect in terms of employability and earnings. On the negative side, program facilitators chose candidates who were most likely to succeed, implying high deadweight loss as these candidates are most likely to succeed without the program.

Skill Shortages: Skill Shortages subsidized employers to train workers in skills deemed to be in short supply. The results show that the program was somewhat successful. However, employers complained about lack of flexibility regarding the designation of shortage skills. Also, evidence suggests that many firms would have trained workers without the program, indicating the incidence of deadweight loss. This raises the unanswered question of whether this program subsidized firms' training expenses that would have been incurred without the program or did this program actually create new jobs?

Employment Tax Credit Program: This program, implemented in 1978, provided a fixed tax credit to firms to hire individuals who had been unemployed for at least eight weeks. The objective of this program was to stimulate incremental employment. The fixed tax credit implies the program targeted low wage and low skilled workers because it accounted for a higher proportion of their wage costs. It turned out that the program was not successful. The program requirements were eased to encourage reluctant firms to participate. Furthermore, the program incurred deadweight loss of 67 percent and substitution of 13 percent. Also, less than five percent of the participants were retained by their employers after the termination of the program.

Canada-New Brunswick Youth Strategy Agreement: This program targeted youth who had dropped out of high school before completing grade nine. Program evaluations did not show improved labour market performance over what may have occurred without the program. In fact, the program may have even increased dependence on social assistance.

The results of micro program evaluations should be used with caution because of two major flaws -- selection bias and the general failure to capture the full range of indirect effects. Selection bias occurs as candidates selected for programs are generally those with a higher probability of success and the comparison group is therefore often not equivalent to the participants. Further, active programs require taxes to finance them, which have negative effects on employment. Programs may have helped participants but none of the evaluation studies provide any idea on how the rest of the labour force participants are negatively affected by higher taxes. With these two flaws in mind, the estimated program impacts are likely too positive, although even when ignoring these problems these impacts are found to be small or non-existent.

Second Stream of Studies: Natural Rate Equations

There is a vast amount of empirical literature on the determinants of the natural (or structural) rate of unemployment for both Canada and internationally. A review of this literature fails to uncover many studies where active labour market spending has had any impact on the natural rate of unemployment in Canada. The vast majority of these equations show that UI is a major factor affecting the natural rate of unemployment. This is suggestive that if the "passive" UI program was to be reformed along the first principles of economics, this would have a very large positive impact on reducing unemployment.

The ***key conclusions*** that emerge are therefore two-fold: remove the key cause for the rise in the natural rate of unemployment, that is reform the UI program along the lines suggested by economic principles; and, active programs that are relatively small-scale and target individuals most in need are helpful in improving labour market outcomes through skill improvements leading to durable employment. Groups of workers who are most positively affected by training programs include the long term unemployed, women, and those who are caught by programs before falling into the long-term unemployment trap.

The reforms of the unemployment insurance program announced in December 1995 deal with both these aspects: the program is being redesigned to improve work incentives; and, active labour market programs are to be restructured, replacing 39 centrally-controlled programs by five "results-oriented" initiatives reinforcing individual initiative, dealing with groups of workers who are shown to have the largest possibility of gain from training.

Abstract

The objective of this paper is to provide an evaluation of active labour market policies. We review this issue both from theoretical and empirical perspectives. Approximately 100 domestic and international evaluations of active programs are considered.

To analyze the effectiveness of active programs, we follow a simple framework. The first requirement of a successful program is that it improves the "matching" of unemployed workers with jobs and improves skills so the qualities of workers better match the needs of employers: this is called the *direct* effect. However, active policies also induce *indirect effects*, which may reinforce or offset the direct effect. For example, taxes needed to finance active programs could reduce employment. Empirical evidence provides information on the effectiveness of active policies. There exist many studies both on Canada and other countries that evaluate the success of active programs.

The key conclusions that emerge are two-fold: remove the key cause for the rise in the natural rate of unemployment, that is reform the UI program along the lines suggested by economic principles; and, active programs that are relatively small-scale and target individuals most in need are helpful in improving labour market outcomes through skill improvements leading to durable employment. Groups of workers who are most positively affected by training programs include the long term unemployed, women, and those who are caught by programs before falling into the long-term unemployment trap.

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Résumé

L'objectif de cette étude est de fournir une évaluation des programmes de formation de la main d'oeuvre. Nous évaluons cette question d'un point de vue théorique et empirique. Environ 100 évaluations internes et internationales de programmes de formation sont considérées.

Nous effectuons une analyse de l'efficacité des programmes de formation à partir d'un cadre simple. La première condition que doit remplir un programme réussi, est d'améliorer l'appariement entre les travailleurs en chômage et les emplois disponibles, et d'accroître les compétences de manière à harmoniser les qualités des travailleurs avec les besoins des employeurs: c'est ce qu'on appelle l'*effet direct*. Toutefois, les programmes de formation entraînent aussi des *effets indirects*, qui peuvent renforcer ou contrebalancer l'effet direct. Par exemple, les taxes qui doivent être prélevées pour financer les programmes de formation peuvent réduire l'emploi. L'évidence empirique fournit de l'information sur l'efficacité des programmes de formation. Il existe plusieurs études au Canada et dans d'autres pays qui évaluent le succès des programmes de formation.

Deux conclusions clés émergent: il faut éliminer la cause clé de l'augmentation du taux de chômage naturel c'est-à-dire qu'il faut modifier le programme d'assurance-chômage selon les lignes suggérées par les principes économiques; et, les programmes de formation à petite échelle et cibler sur les individus qui en ont le plus en besoin contribuent à améliorer le fonctionnement du marché du travail en augmentant le niveau des compétences et, par le fait même, le nombre d'emplois durables. Les groupes de travailleurs plus favorablement affectés par les programmes de formation incluent les chômeurs de long terme, les femmes, et ceux qui sont pris en charge par les programmes avant de tomber dans le piège du chômage de long terme.

Les réformes au programme d'assurance-chômage, qui ont été annoncées en décembre 1995, prennent en compte ces deux éléments: le programme est réajusté pour améliorer les effets d'incitation à l'emploi; et les programmes de formation seront restructurés, en remplaçant 39 programmes centralisés par cinq initiatives "orientées sur les résultats", selon l'objectif de renforcer l'initiative individuelle touchant les groupes de travailleurs qui ont le plus de chance de profiter de la formation.

I. Introduction

Canada's unemployment rate has ratcheted up since the 1950s, from under five percent to close to ten percent at this time. Many have argued that this is indicative of structural problems in the Canadian labour market and that the unemployment rate would not fall to acceptable levels even if the current slack in the labour markets was to disappear. Some have gone further and concluded that the most effective way to reduce Canada's unemployment is for the federal government to spend large sums of money on training unemployed workers to make their abilities relevant to the needs of jobs; this is referred to as "active labour market programs". Some have argued that the federal government should divert money from the "passive" UI program -- a program that provides financial assistance to workers during their period of unemployment -- to active programs.

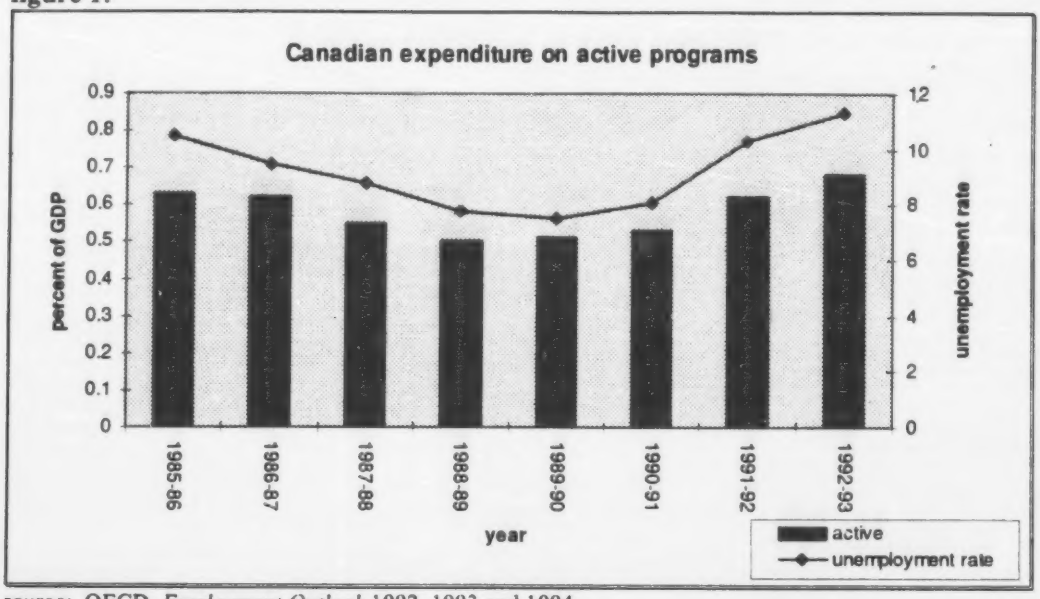
An approach that suggests diverting funds from those who do nothing while unemployed to those who would be receiving skill upgrading while off work is intuitively very appealing. It is also a serious matter: unemployed workers may need financial assistance only if they are seriously looking for work; on the other hand, workers trained at public expense may, or may not, find jobs after their training is completed. These considerations suggest a serious look at the economics of active labour market programs. Such a serious look is the focus of this paper. This examination is provided both from an economic theory perspective and an empirical perspective. On the theoretical side, the paper reviews models to determine conditions under which active policies are helpful. On the empirical side, the paper reviews over 100 Canadian and international studies to learn from the practical experience with these studies.

Section II presents a few stylized facts on Canada's expenditure on active policies in an international context. Section III presents a framework that facilitates the evaluation of active programs. Moreover, economic theory presented within this framework indicates the likely effects of active policies. Section IV attempts to determine how bad structural mismatch is in Canada. Section V briefly discusses our approach on how to evaluate empirical studies. Empirical evidence from a variety of perspectives is reviewed in Sections VI to XI. Finally, Section XII provides concluding remarks.

II. Stylized Facts

Canada's emphasis on active labour market spending has been increasing since 1988-89, as illustrated in figure 1. Active expenditures grew from 0.5 percent of GDP in 1988 to 0.65 percent of GDP in 1992-93. The figure clearly illustrates that active expenditures are correlated with the unemployment rate. This is not surprising as policy makers responded to high unemployment by increasing active spending with the objective of reducing unemployment.

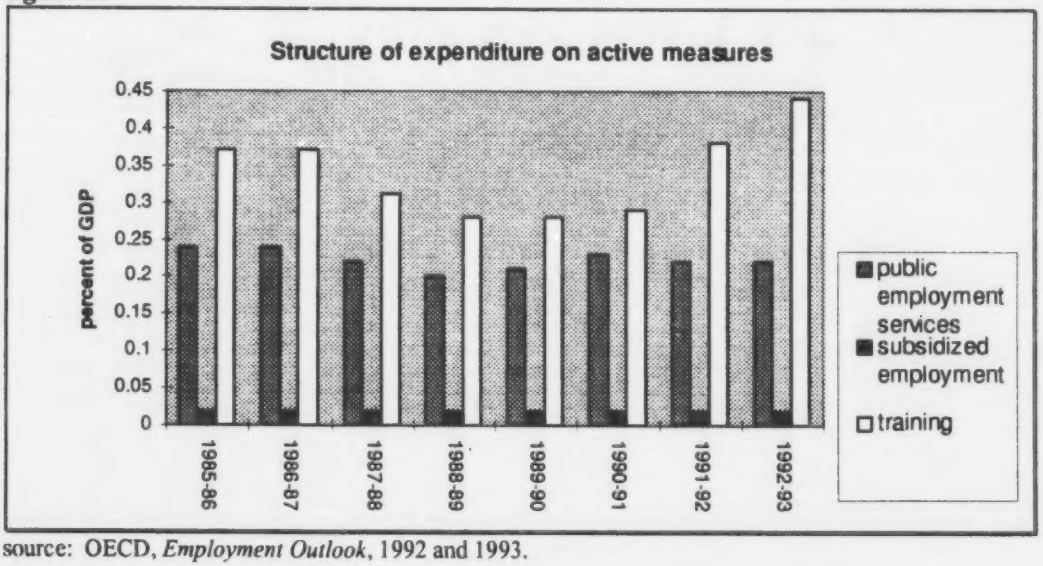
figure 1:



source: OECD, *Employment Outlook* 1992, 1993 and 1994.

Active labour market policies include: (i) public employment services (i.e. employment centres); (ii) training (including youth measures); (iii) direct job creation and subsidized private sector employment. Figure 2 shows that the rise in active expenditures is largely attributed to the rise in training measures.

figure 2:

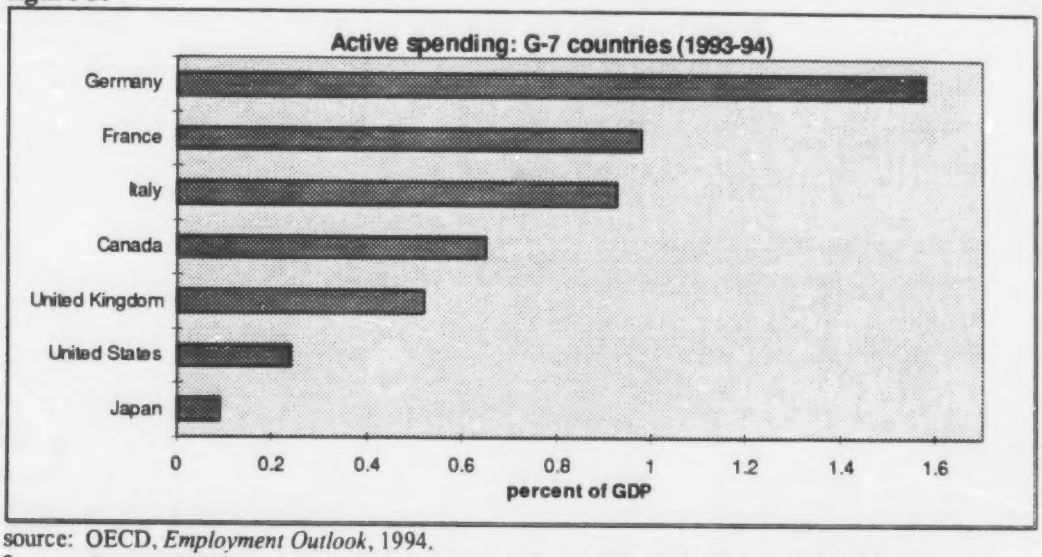


source: OECD, *Employment Outlook*, 1992 and 1993.

When compared with other G-7 countries, Canada's expenditures on active policies are in the middle of the range (figure 3). In 1993-94, Canada spent much more on these policies

than Japan and the United States. Japan spent 0.09 percent of its GDP and the United States about 0.24 percent. However, Canada's expenditures are much less than a country such as Germany. Germany spent almost 1.6 percent of its GDP on active measures.

figure 3:[a]

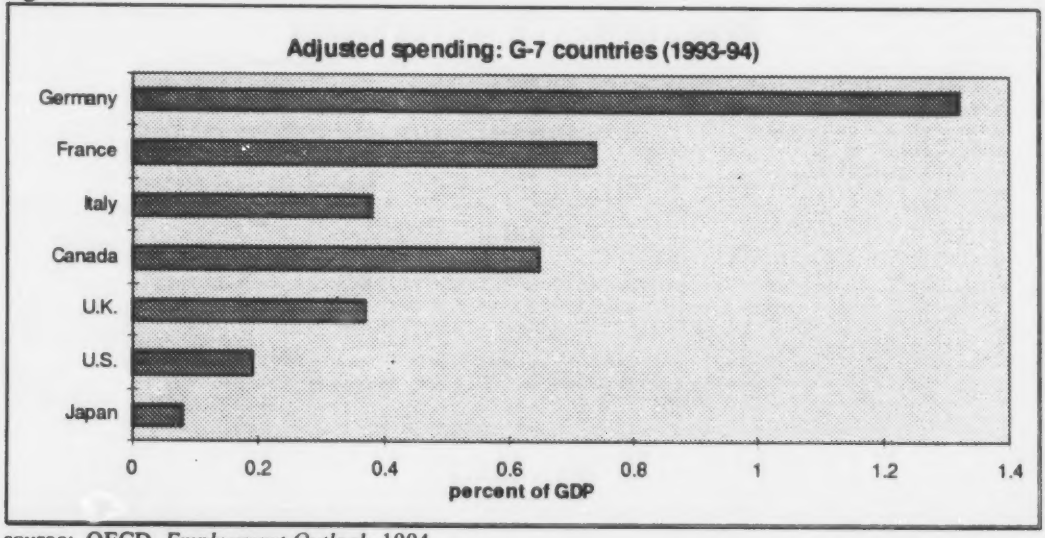


source: OECD, *Employment Outlook*, 1994.

a Data for Germany, France, Italy and Japan is from 1993, 1992, 1992, and 1992-93 respectively.

Cross-country comparisons of active spending are likely to be quite inaccurate. Since the definition of active policies is fairly flexible, cross-country data with respect to active spending is highly non-standard and often quite subjective. The OECD includes the following program expenditures as active spending: training for unemployed and

figure 4:[a]



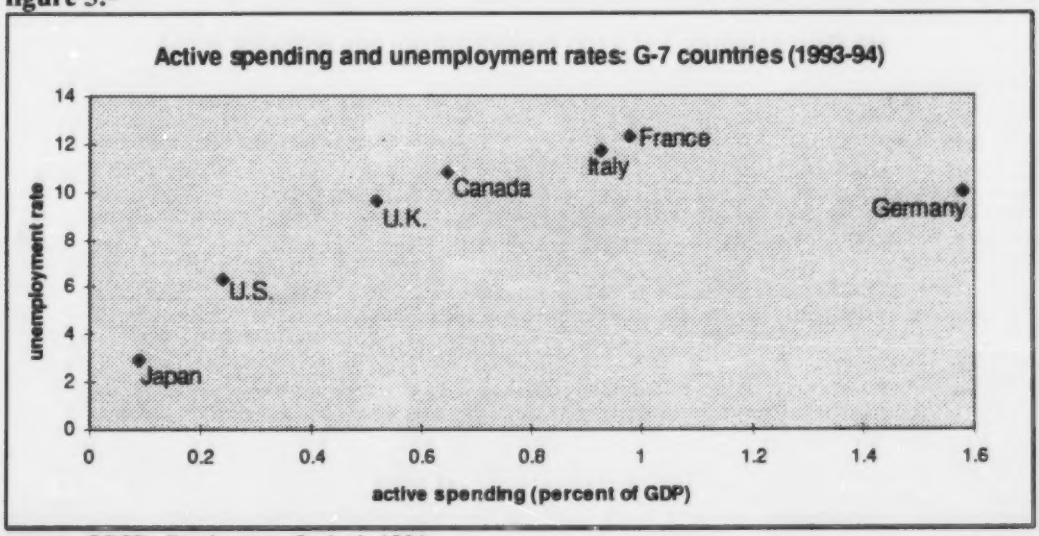
source: OECD, *Employment Outlook*, 1994.

a Data for Germany, France, Italy and Japan is from 1993, 1992, 1992, and 1992-93 respectively.

employed workers; youth measures such as measures for unemployed and disadvantaged youth and apprenticeship programs; subsidized employment, direct job creation, and the support of new enterprises; and measures for the disabled. As an illustration, figure 4 removes expenditure on apprenticeship programs and measures for the disabled, which are not strictly spending on training in the sense the issue is defined in Canada at this time. Under this narrower definition of active policy, Canada's spending ranks third when compared with other G-7 countries.

Figure 5 shows the relationship between active spending (from figure 3) and unemployment rates. A positive correlation seems to exist, without any information on cause and effect. One may formulate causation running from high unemployment to active spending, meaning that high unemployment countries need to spend more to train workers. Alternatively, the causation may be assumed to run from high active spending to high unemployment. There are costs and benefits of active spending. If costs are larger than benefits, it is possible for active spending to increase unemployment.

figure 5:[a]



source: OECD, *Employment Outlook*, 1994.

a Active spending data for Germany, France, Italy and Japan is from 1993, 1992, 1992, and 1992-93, respectively.

III. Framework for Evaluating Active Policies:

A well functioning labour market is one that efficiently matches job vacancies with unemployed workers. Active labour market policies aim to reduce unemployment by improving matching through employment services, training and direct job creation (see figure 6). This improvement in matching is called the *direct effect*. However, active policies could also induce *indirect* effects (see figure 7). Indirect effects occur when active policies change how workers and firms set wages and/or change firms' demand for labour. The direct effect, if an active policy is effective, should reduce unemployment while indirect effects may increase or decrease unemployment. As an example, the need to finance active spending implies tax increases which can reduce employment. Without further analysis, it is difficult to determine the *net* effect on unemployment. The next section presents a theory of active labour market policies based on Calmfors (1994). This theory formalizes the direct and indirect effects listed in figure 7 which are discussed in detail in section IIIb.

figure 6: The Objective of Active Policies

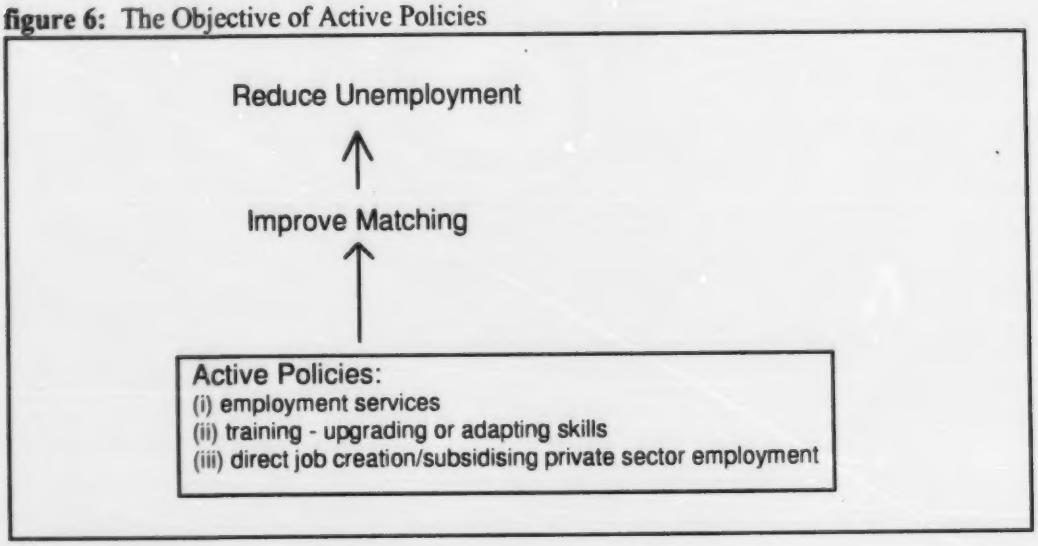
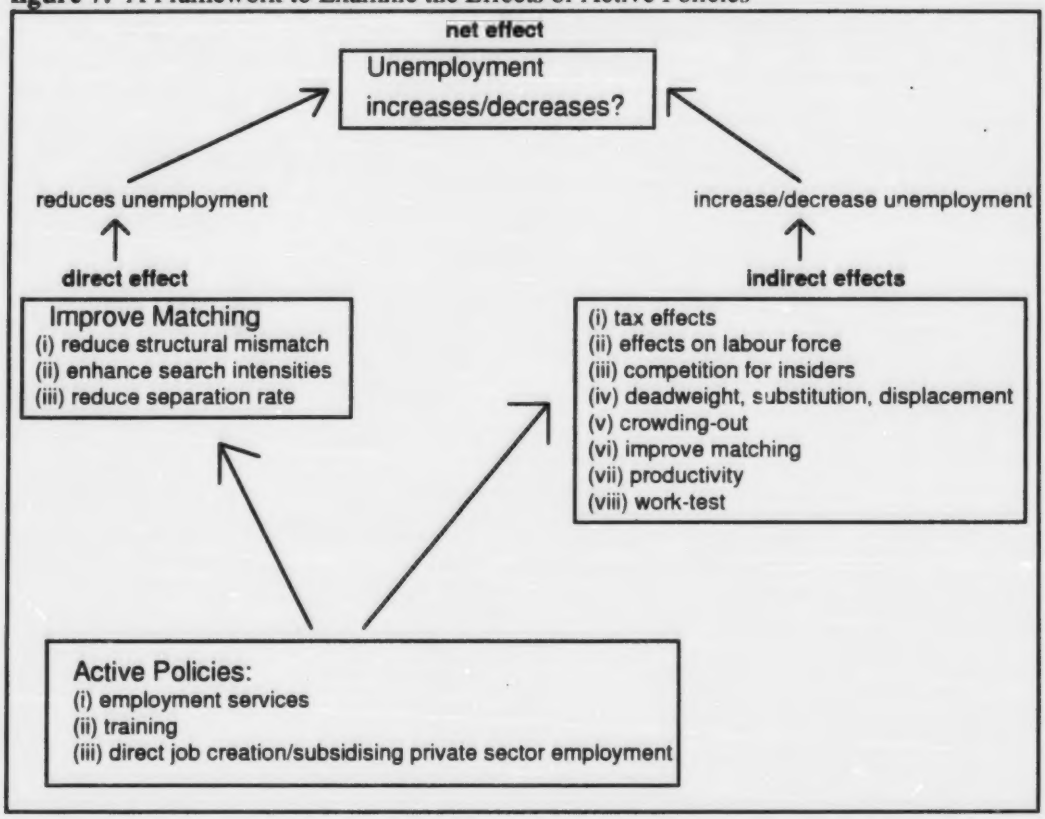


figure 7: A Framework to Examine the Effects of Active Policies



IIIa. Theory[1]

A simple Layard-Nickell model provides the theoretical underpinnings of this framework (Layard and Nickell 1991). The Layard-Nickell model includes a downward sloping employment schedule (labour demand) and an upward sloping wage-setting schedule (see figure 8). The employment schedule relates employment (as a proportion of the labour force) to the real wage. The negative slope indicates that a declining real wage reduces the cost of labour, thereby increasing the demand for labour. The wage-setting schedule relates employment to workers' ability to demand wages. The positive slope indicates that a higher employment rate exerts upward pressure on the real wage.

The intersection of the employment schedule and the wage-setting schedule characterizes the equilibrium employment rate and real wage (point A in figure 8). The vertical line indicates full employment for the labour force. The horizontal difference between

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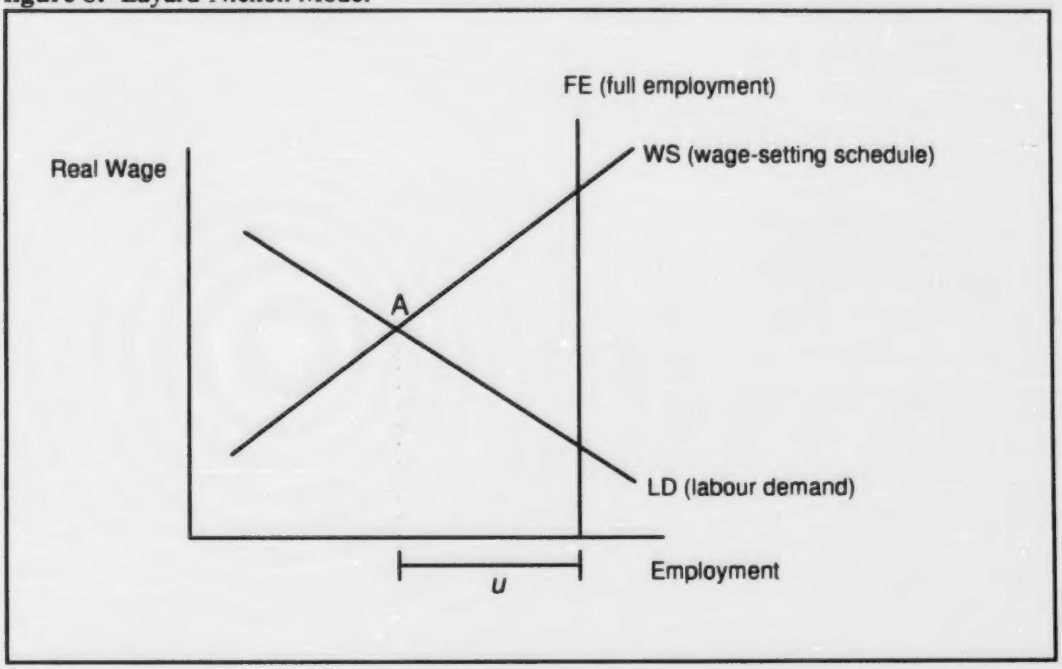
[1] This presentation closely follows that of Calmfors (1994). However, this framework has also been formalized by Pissarides (1992), Jackman, Pissarides, and Savouri (1990), Jackman, Layard, and Pissarides (1989), and Blanchard and Diamond (1989).

equilibrium employment and full employment gives the equilibrium unemployment rate. Figure 8 indicates that in equilibrium involuntary unemployment is given by u.

figure 8: Layard-Nickell Model

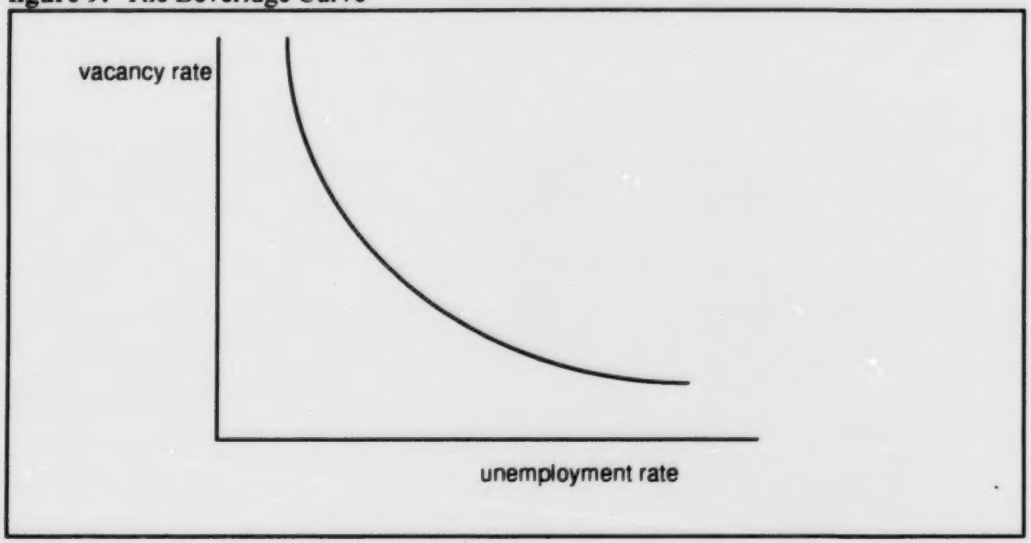


The beveridge curve (unemployment-vacancy curve) completes this simple model. The beveridge curve measures the effectiveness of the matching process between unemployed workers and vacant jobs (see figure 9). The curve characterizes the equilibrium relationship between vacancies and unemployed workers where the inflow into unemployment equates the outflow into unemployment such that employment stays constant. The inflow into unemployment is created by quits, layoffs and people entering the labour force. The outflow is created by hirings. The curve traces out combinations of unemployment and vacancies for a given equilibrium between the inflow and outflow into unemployment. The negative slope indicates that an increase in vacancies coincides with a decrease in unemployment. The extra hirings resulting from more vacancies is offset by fewer job-matches due to less job applicants, ensuring employment stays constant.

The location of the beveridge curve often coincides with the natural rate of unemployment. A beveridge curve closer to the origin could imply a higher natural rate of unemployment. Moreover, it is often the case that the location of the beveridge curve, hence the natural rate of unemployment, denotes the efficiency of the job-matching process. If this is the case, it implies that policies aiming to improve the matching process could reduce unemployment. Moreover, active policies could result in shifting the beveridge curve in toward the origin.

The natural rate of unemployment may be high for a number of reasons besides mismatch; for instance, unemployment benefits or unionization. However, active policies only address the problem of mismatch. Therefore, when inefficient matching is responsible for high unemployment, active policies could potentially remedy this problem.

figure 9: The Beveridge Curve



Analyzing effects of active labour market policies using this model requires some adjustments. As shown in figure 10, active policies that increase program participation by r effectively reduce *open* unemployment from u to u_0. This is only a statistical reduction in open unemployment which is referred to as the *gross* effect. However, program participants are still searching for jobs, hence should still be considered unemployed. To capture the effects of active policies on *regular* unemployment rather than open unemployment the following adjustments are made to the model: the Layard-Nickell model is used to measure only regular employment, thus excluding program participants; the beveridge curve is then used to measure the effectiveness of the matching process between job vacancies and all unemployed workers, thus including program participants. These adjustments rule out any gross effects, allowing the model to focus on the effects of active policies on regular unemployment. The revised model is illustrated in figure 11.

figure 10: Layard-Nickell Model - Increasing program participation

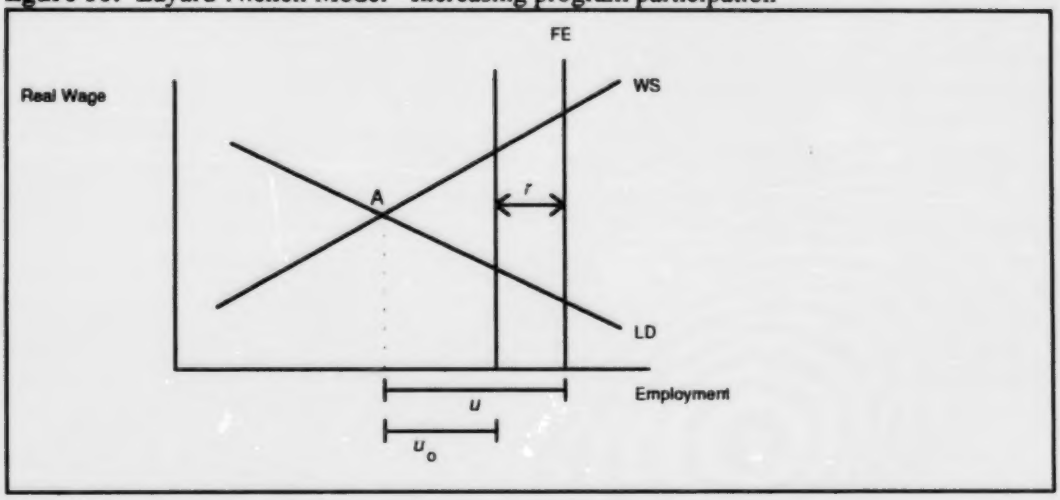
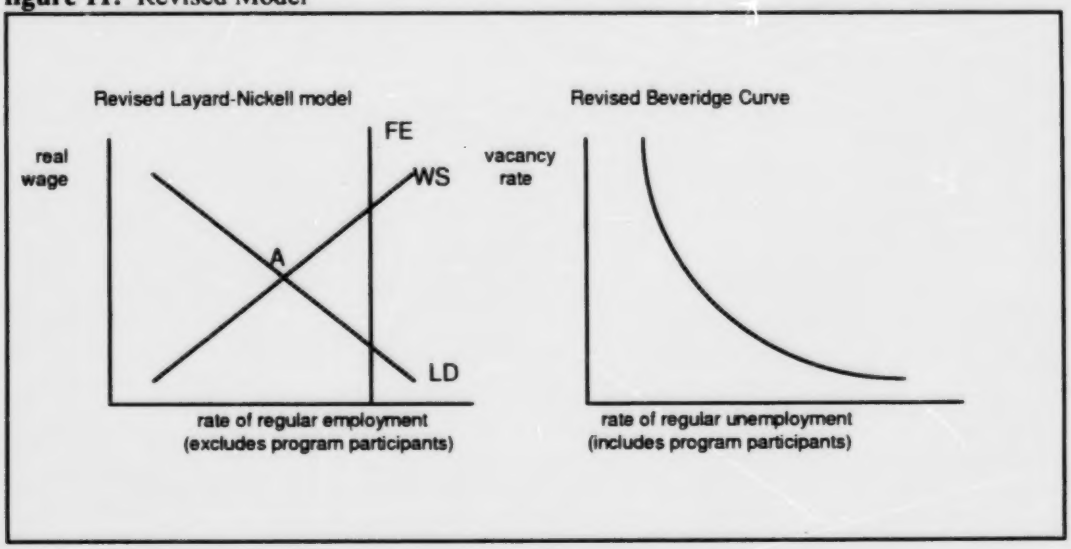


figure 11: Revised Model



IIIb. The Effects of Active Policies

(i) Direct Effect

Active policies should improve matching by addressing factors that determine the efficiency of the matching process. These factors include: (i) the level of structural mismatch (ii) the search intensities of unemployed workers and firms (iii) the separation rate.

Structural mismatch corresponds with the efficiency of the matching process. With more structural mismatch the matching process is less efficient, thus creating fewer job matches for a given pool of unemployed workers and vacant jobs. Structural mismatch describes the heterogeneities of qualities attributed to workers and the needs of firms. Heterogeneities exist in terms of skills, work experience and geographical location. Jackman and Roper (1985) describe structural mismatch by dividing the economy into sectors. Jobs within a sector are considered homogeneous while jobs across sectors differ significantly. An unemployed worker can move across sectors only at a cost. Costs include expenses in acquiring new skills or moving expenses. Structural mismatch exists if there is unemployment in some sectors while there are vacancies in other sectors.

Structural mismatch can be measured by region, occupation, industry or education/skills. Reducing the heterogeneities between the qualities of workers and the needs of firms could reduce structural mismatch. Alternatively, reducing the costs of moving across sectors could attenuate structural mismatch.

Search intensity describes the effort with which an unemployed worker looks for a job and the effort with which a firm looks for workers to fill vacancies. It is postulated that workers search less intensively when they become discouraged. Typically, workers become discouraged when they have been unemployed for a long time. Therefore, when the stock of unemployed workers comprises more long-term unemployed individuals, the average search intensity of unemployed workers declines. Less intensive search leads to fewer job matches, making the matching process less efficient (i.e. shifting the beveridge curve out from the origin). Active policies aim to offset the decline in search intensity of discouraged workers.

Firms search less intensively when they perceive the stock of unemployed workers to be of lower quality. In addition to becoming discouraged, workers lose their skills as they are unemployed for longer periods of time. Workers whose skills have depreciated are perceived to be of lower quality. It follows that more long-term unemployed workers within a stock of unemployed workers lowers the perceived average quality of job-searchers. Lower quality leads to less intensive search on the firms' part. Less intensive search leads to fewer job matches which leads to a less efficient matching process. Active policies aim to enhance firms' intensity of search by upgrading skills and by reducing employers' uncertainty of an applicant by providing program participation as a signal for quality.

The separation rate refers to the break up of job-worker matches resulting from quits or layoffs. Often the separation rate is termed the rate of structural change. With more structural change more job-worker matches separate. More separation implies an increasing inflow into the stock of unemployment. As the inflow increases the level of structural mismatch accordingly increases, hence generating less efficient matching. Active policies reducing the separation rate by discouraging layoffs slow the rate of structural change. Lowering the rate of structural change produces less structural mismatch. Less structural mismatch implies a more efficient matching process, thereby shifting the beveridge curve inwards. However, it should be noted that slowing the rate of

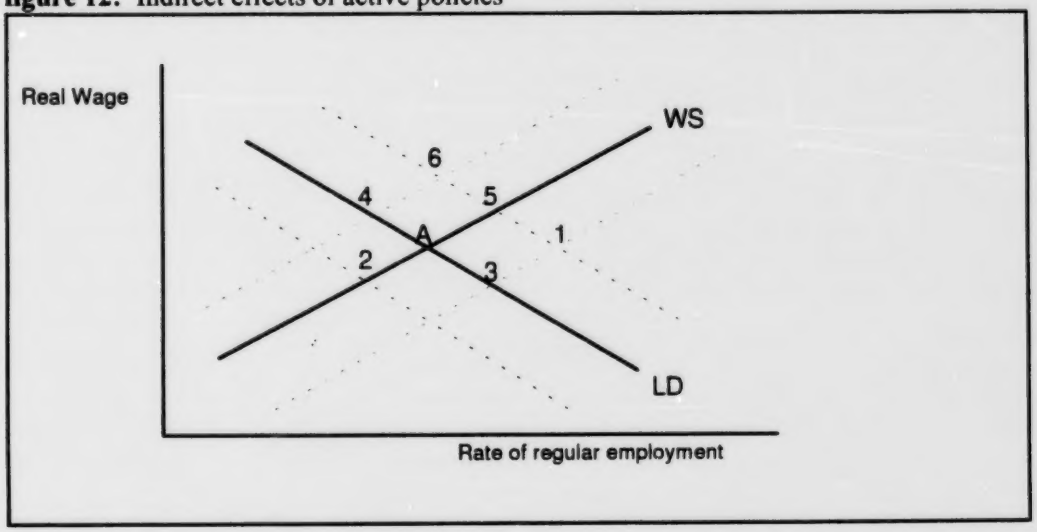
structural change is not necessarily ideal when considering factors beyond the unemployment rate.

(ii) Indirect Effects

Tax effect

Active policies are costly. In Canada, the average cost per program participant is about $6,000. This is much more than the cost of simply maintaining unemployment benefits or social assistance had there been no program, on average about $1,000 (HRDC 1994). Therefore, expanding active policies costs money and requires financing. Financing of labour market policies usually is generated by employer and employee taxes. Higher employer taxes imply a higher labour cost. Employers respond to higher taxes by decreasing their demand for labour which is given by a downward shift in the labour demand schedule. Higher employee taxes imply lower wages received for a given amount of work, thereby lowering the supply of labour for a given wage. Taxes increase the wedge between the employers' cost of labour and the wages received by workers, thus reducing regular employment. Therefore, taxes needed to finance active policies could reduce regular employment and offset the positive employment effects of active policies.

figure 12: Indirect effects of active policies



Effects on the labour force

Active labour market policies could strengthen labour force participation. Dissuading discouraged workers from leaving and encouraging potential entrants to enter bolsters participation. As labour force participation rises, employment as a proportion of labour force participation declines for a given wage. Greater labour force participation causes the labour demand schedule to shift down. Furthermore, rising labour force participation creates more competition for jobs. Greater competition exerts downward pressure on wages. Lower wages induce firms to create more jobs, thereby increasing employment as

a proportion of the population. The indirect effect of encouraging labour force participation is depicted in figure 12 as a change in equilibrium from A to 2. More labour force participation results in lower wages, more unemployment, and a lower rate of regular employment while employing a greater proportion of the population.

Competition effects for insiders

Active policies typically target workers having the most difficulty finding a job (long-term unemployed, youth, re-entrants, etc.). Unemployed workers having difficulty finding a job do not exert much influence on wages. Employed workers and short-term unemployed workers dominate wage-setting behaviour (employed and short-term unemployed are termed the *insiders* while workers exerting little influence on wages are termed the *outsiders*). Programs targeting outsiders could improve their competitiveness relative to insiders by enhancing their productivity, encouraging more intense job-search and providing outsiders with attributes that give positive signals to prospective employers. Increasing outsiders' competitiveness relative to insiders re-enfranchizes outsiders' influence on wages, thereby diminishing workers' ability to demand higher wages. More competition exerts downward pressure on wages which shifts the wage-setting schedule downward. The change in equilibrium is shown in figure 12 as a move from A to 3. The indirect effect of making outsiders more competitive leads to higher employment and lower wages.

Deadweight, substitution and displacement

Deadweight refers to employment outcomes that would have occurred without the program. Substitution occurs when the target group gains employment at the expense of other workers. Substitution results from programs lowering participants' wage costs relative to non-participants. Displacement occurs when output of subsidized employers displaces output of unsubsidized employers. Hence, workers of subsidized employers displace workers of unsubsidized employers. Deadweight, substitution and displacement are more likely to occur when active policies create jobs or subsidize private sector employment. These indirect effects could drive up the hiring costs of non-participants relative to participants and the hiring costs of unsubsidized employers relative to subsidized employers. Higher hiring costs for non-participants shift the labour demand schedule for regular employment downward and change the equilibrium from A to 2. Active policies inducing deadweight, substitution or displacement cause a decrease in the rate of regular employment and a lower real wage.

Crowding-out effects

Active programs could enhance the compensation of unemployed workers which reduces the welfare loss of unemployment. Expanding active programs could increase compensation by offering higher monetary income than unemployment insurance or by decreasing the costs of unemployment by decreasing risks of future unemployability and bad wages. Hence, the expansion of active policies could be similar to increasing unemployment benefits. Expanding active policies could weaken incentives for wage

restraint, thereby shifting the wage-setting schedule upwards. This indirect effect captures the notion that active programs crowd-out regular employment. Crowding-out changes the equilibrium from A to 4 in figure 12. Crowding-out reduces regular employment and increases real wages.

Improving the matching process

A more efficient matching process could induce an indirect effect by changing both the labour demand schedule and wage-setting schedule. More efficient matching should reduce the expected duration of search to fill a vacancy, thereby reducing a firm's cost of filling a vacancy. Firms respond to lower costs by opening more job vacancies, hence increasing the demand for labour. This effect is depicted as an upward shift of the labour demand schedule. Moreover, since it is cheaper to fill vacancies, firms have less incentive to offer higher wages to attract job-searchers. Workers' ability to bargain for higher wages could diminish which is represented by the wage-setting schedule shifting down. Therefore, improving the efficiency of the matching process induces an indirect effect that is illustrated in figure 12 by a change in equilibrium from A to 1. Improving the matching process could induce an indirect effect that increases employment and has an ambiguous effect on the real wage.

Productivity

Active labour market programs could increase or maintain the productivity of unemployed workers. In particular, training could raise the marginal productivity of program participants and can also lead to externalities causing a rise in aggregate productivity. A rise in productivity can induce two opposing effects. More productive labour reduces the unit cost of an efficiency unit of labour. Employers may respond to the cheaper cost of efficiency units of labour by expanding production and increasing labour demand (scale effect). Alternatively, employers may continue producing a fixed amount of output and reduce labour demand as only a fixed number of efficiency units are required (substitution effect). Assuming the scale effect dominates, firms increase labour demand. The productivity effect shifts the labour demand schedule upward and changes the equilibrium from A to 5 in figure 12. Active policies enhancing productivity cause an increase in regular employment and higher real wages. However, in the longrun wages should fully absorb any changes in productivity and is depicted as a movement from A to 6. In the longrun productivity effects should have no effect on regular employment.

Work-test effects

Making program participation mandatory for receiving unemployment benefits may cause some job-searchers to leave the labour force. Some job-searchers would rather receive no unemployment benefits than participate in labour market programs. Presumably, those who choose to leave the labour force are those who are not actively searching for a job. This effect is probably small.

Table 1 summarizes the indirect effects of active policies and their posited effects on regular employment, real wages and labour force participation.

table 1: The Indirect Effects of Active Policies

Indirect Effect	real wage	regular employment	**regular employment as proportion of population**	labour force
taxes	?	-	-	0
labour force	-	-	+	+
competition for insiders	-	+	+	0
deadweight, substitution, displacement	-	-	-	0
crowding-out	+	-	-	0
matching	?	+	+	0
productivity	+	?	?	0
work-test	0	+	**0**	-

source: Calmfors (1994).

(iii) Net Effect - The effect of active policies on unemployment

Active policies aim to reduce unemployment. Thus, the key question is as follows:

- Will increasing the aggregate level of active expenditure reduce unemployment? In other words, given the direct and indirect effects of active policies, what is the net effect on unemployment?

As outlined in figure 7 and table 1, there is no clear response to this question.

IV. How Bad is Structural Mismatch in Canada?

Three factors affect the mismatch of workers and jobs: structural mismatch, search intensities, and the separation rate. The extent to which these factors are responsible for the rising natural rate of unemployment determines the potential success of these policies. Evidence shows that some of these factors could explain the rising natural rate of unemployment while other factors could not: evidence is contradictory on whether there has been a rise in structural mismatch; it is likely that there has been a decline in the average intensity of search; there has been no rise in the rate of separation.

Structural mismatch refers to the heterogeneities between the qualities attributed to unemployed workers and the needs of firms. There are several methods for measuring

structural mismatch: by region, industry, age, or by education/skill level. According to Gera, Rahman, and Arcand (1991), regional mismatch accounted for a significant loss in the matching efficiency while industrial mismatch did not affect the matching efficiency.[2] Evidence also suggests that there may exist mismatch in terms of age and education. Job losers are generally older than people hired in high growth industries. In 1988, ten percent of people hired in high growth industries were over 45 while close to 30 percent of job losers were over 45. Moreover, job losers are typically less educated than people hired in fast growth industries. Unemployment among people with only primary education is three times as high as those with a university degree. Also, unemployment is significantly higher for those who dropped out of high school than those with a high school degree.

Clearly, firms are demanding higher skills and are projected to further demand more skilled workers in the future. Whether this increased demand reflects the need for higher skills or is a method for rationing jobs is yet to be determined.[3] Despite the reason for more demand, preliminary evidence shows that people are indeed acquiring more skills. When individuals do respond to an increased demand for skills by supplying more skills, it indicates that the market may, in fact, be performing quite well.[4] On a similar note, Lipsett (1993) provides a number of measures of structural change which show that there is no evident trend suggesting an increasing rate of structural change. However, the trends in unemployment are predicted to worsen as many people with a low level of education are under 45 years old. This trend in unemployment suggests a rise in structural mismatch. Therefore, the need for active policies to attenuate structural mismatch is contradictory: on the one hand, evidence suggests that there exists a need for active labour market policies to ameliorate structural trends (Lowe and Krahn 1994); on the other hand, evidence suggests that wage signals may be performing quite well. In fact, it is not clear whether active policies can be superior to market forces in ameliorating structural mismatch and reducing unemployment.

Another factor affecting the matching process, long-term unemployment, is a growing problem in Canada. Evidence shows that unemployment rates have failed to decline during growth periods. Unemployment created by cyclical factors can persist, thereby increasing the natural rate of unemployment. Persistent unemployment often is synonymous with a high incidence of long-term unemployment. More long-term unemployment exacerbates mismatch. As more workers are unemployed for longer

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[2] It is likely that regionally extended unemployment insurance benefits largely explain regional mismatch.

[3] Shackleton (1992) claims that firms demand higher skills to ration jobs. It then follows that many workers are underemployed.

[4] The postulation that the demand for higher skills is being matched by the increased supply of skilled workers is supported by the Bar-or, Burbidge, Magee, amd Robb (1992) study. This study shows that over the 1980s there has been no increase in the rate of return to education despite the increased demand for skills. Blanchard (1995) confirms this result for the United States.

periods of time, the search intensities on the part of firms and unemployed workers declines. Less intensive search creates more mismatch, further shifting the beveridge curve outward.

Unemployed workers search less intensively for a job when they have been unemployed for a long time because they are discouraged. Firms search less intensively when workers have been unemployed for a long time because they perceive workers to be of lower quality. If the duration of a worker's unemployment acts as a signal of quality, then long-term unemployment is a stigma. Thus, as the duration of unemployment rises the probability of finding a job declines. More long-term unemployed workers within a stock of unemployed results in less efficient matching. Evidence shows that long-term unemployment in Canada has been on the rise. The proportion of the unemployed who are long-term unemployed has trended upward from 3.7 in 1980 to 11.2 percent in 1992. However, Canada's incidence of long-term unemployment is lower than all other G-7 countries. Despite being relatively low in comparison with other countries, this is one area where wages may fail to function properly and active policies may be called for. This suggests that active policies targeting long-term unemployed workers or preventing long-term unemployment could offset declining search intensities. More intensive search improves the matching efficiency, thereby reducing unemployment.

The separation rate refers to the rate of break-up between job-worker matches. Separation results from quits or layoffs. Evidence indicates that there has been no rise in the rate of separation over the past two decades (Gera, Rahman, and Arcand 1991). Therefore, the rate of separation is not responsible for the rise in unemployment. However, policies attempting to ameliorate structural trends and, in particular, enhance the search intensities of firms and workers, are more likely to improve matching and reduce unemployment. The ability of active policies to reduce structural mismatch and intensify search provides an upper bound to the effectiveness of active policies.

V. Methodology to Review Empirical Evidence

The purpose of active policies is to reduce the natural rate of unemployment. This suggests two approaches to review the impact of active policies: the first approach could focus on studies dealing with active policies and determine the extent to which these policies have been successful in reducing the natural rate of unemployment; the second approach could focus on studies dealing with changes in the natural rate of unemployment and determining the extent to which active policy variables have been successful in influencing it. We pursue both approaches in the rest of the paper: Under the first approach we review the literature (both micro and macro) on active programs; under the second approach, we review the literature on the determinants of the natural rate of unemployment.

VI. Evaluating Active Programs - Canadian Micro Evidence

Job Development Program

The Job Development Program targets long-term unemployed workers (unemployed at least 24 of the last 30 weeks) with the objective of providing employment experience and training to improve participants' employability and earnings. This program comprises four options:

1. The General Projects Option (GP) subsidizes formal and on-the-job training in the public and private sector for up to 52 weeks. Subsidies account for up to 60 percent of wages in the private sector and 100 percent in the public sector with a ceiling of $350 a week. Also, required staff, capital and operating costs are subsidized.

2. The Individually Subsidized Jobs Option (ISJ) targets long-term unemployed workers limited by a cultural or social barrier (e.g. natives, social assistance recipients, visible minorities, ex-inmates, etc...). This option requires a sponsor to prepare a proposal tailored to a specific trainee. Subsidies begin at 80 percent of wages and decline to 25 percent over the 52 week period. Capital, training and operating costs are also subsidized.

3. The Severely Employment Disadvantaged Option (SED) provides employment on community-based projects for severely employment disadvantaged (e.g. individuals experiencing problematic work habits, attitude and motivation problems, a serious lack of education, illiteracy, or substance abuse problems). This option subsidizes wages by 100 percent for up to 52 weeks with the objective of securing employment or more training for participants.

4. The Direct Purchase Option (DPO) provides occupational training in provincial educational institutions. This option aims to meet skill requirements of employers and increase employability and earnings of participants.

Program Impact

The results from three evaluations are summarized in table 2. The results report the impacts of the Job Development Program using three indicators: (i) employability - proportion of time employed per year (ii) expected annual earnings (iii) proportion of time on unemployment insurance

table 2: The Impacts of the Job Development Program

	Employability	Earnings	% of time on UI
1. Goss, Gilroy[a]			
GP: female	0.159*	-$676	34.4%*
male	-0.255*	-$9,568*	28.1%*
ISJ: female	-0.055*	-$884*	13.2%*
male	0.131*	$2,132*	16.0%*
SED: female	0.145*	$832	19.5%*
male	0.199*	-$1,092	-13.1%
2. EIC[b]			
GP: short-term	-0.032	-$154	-
long-term	-0.018	-$1,469	-
ISJ: short-term	0.171*	$2,123*	-
long-term	0.109*	$1,408	-
SED: short-term	0.118*	$887	-
long-term	0.01	-$473	-
DPO: short-term	0.005	$1829	-
long-term	0.139*	$4648*	-
3. Park et. al.[c]			
All participants	0.000	-	-
1988 participants	0.018	$1531	-
1989 participants	0.016	-$1640	-
1990 participants	-0.079	-	-

* Achieves significance at the 5% level.
a,b,c Estimated earnings impacts are in 1988, 1992, and 1986 dollars, respectively.

The Goss, Gilroy & Associates LTD. evaluation (1989) produced mixed results. In general, Job Development was successful in improving participants' employability. Employability increased for all options except for males in the GP option and females in the ISJ option. In terms of raising earnings, the program was not successful. Only males in the ISJ option experienced a gain in earnings. However, most participants increased their use of unemployment insurance. Higher use of UI is inevitable since participants, being long-term unemployed, had likely exhausted their unemployment benefits prior to program participation. When these individuals participate in a program they build up their eligibility for UI.

The Employment and Immigration Canada (EIC is now part of Human Resources Development Canada) evaluation (1993) estimated the short and long-term impacts of program participation. For the most part, any positive gains attributed to program participation declined over time. Participants experienced no significant gain in earnings

except the ISJ option in the short run and DPO in the long run. Participants' employability improved in the short and long run for the ISJ option, the short run for SED and the long run for DPO. DPO was the only option whose program impacts intensified over time, otherwise positive impacts diminished.

The Park, Power, Riddell, and Wong (1994) evaluation of Job Development shows that the program induced no earnings or employability effects. However, these results should be interpreted with caution as they are based on highly aggregated data and only program participants who were UI recipients prior to the program. The results from the above evaluations suggest that options producing positive impacts may be offset by options generating negative impacts. Hence, when aggregated the positive and negative impacts net out inferring the program induces no effect. Alternatively, these results may be biased downwards since they only focused on UI recipients. As the above results indicate, the program may have been more effective for the most disadvantaged of the long-term unemployed (i.e. participants in the ISJ and SED options) who were receiving social assistance rather than UI.

The results of these evaluations indicate that the Job Development Program was successful for certain options targeting specific groups. In general, the GP option was the least successful whereas the ISJ and SED options experienced some success. Moreover, positive earnings and employability effects attributable to the program tended to decline in the long run.

Costs

The average cost per completer was as follows: GP - $9,346; ISJ - $3,914; SED - $5,914. It follows that the ISJ option was the most cost effective and GP was the least. The ISJ option produced positive employability and earnings effects while also costing the least. The GP option was very expensive and failed to induce favourable program effects.

Evidence of direct effect - improving matching

The success of Job Development resulted more from socializing participants to the work environment than from imparting new skills. In other words, Job Development offset the discouragement associated with long-term unemployment, thereby improving the search intensity of program participants. For instance, employers participating in the GP option indicated success in improving self-esteem and motivation, providing work experience, and improving attitudes and work habits. Similarly, SED employers indicated that the SED option was more successful in improving search intensity by enhancing self confidence, self-esteem and motivation (84 percent) than in providing marketable skills (16 percent). These responses suggest Job Development improved matching by enhancing the search intensity of long-term unemployed workers.

Evidence also suggests that Job Development induced superior program impacts when participants worked in the private sector rather than the public sector. Participants working in the private sector are more likely to be retained since the program directly

facilitates worker/firm contact, allows firms to cheaply impart firm-specific skills, and provides participants with work experience to offset the stigma of long-term unemployment. Most sponsors participating in the ISJ option were private sector employers (95 percent). The ISJ had a fairly high rate of retention (46 percent of participants). Conversely, all SED sponsors were public sector employers and the SED option experienced less retention (15 percent).

Evidence of indirect evidence

It is difficult to capture indirect effects based on program evaluations of this sort. However, surveys do generate some evidence regarding the indirect effects of substitution and deadweight. Evidence suggests that 48 percent of employers would have staffed without the program, indicating substitution. Evidence does not suggest that current workers were displaced. Moreover, 65 percent of employers indicated that participants would have met hiring standards without program participation, suggesting some deadweight loss.

Net effect on unemployment

The Job Development Program has shown some success in improving certain participants' employability. At the same time the program has worsened other participants' employability. Moreover, positive program impacts may be largely offset by indirect effects such as substitution and deadweight loss. It follows that in aggregate it is unlikely that this program leads to a reduction in unemployment. However, the program was successful when it targeted specific groups.

In view of program objectives, the extent to which Job Development reduces unemployment may not be the most appropriate measure. For instance, substitution is considered to be an adverse effect but program objectives indicate that some degree of substitution is justified in order to improve the employability of long-term unemployed workers. If a program does not intend to reduce unemployment, the success of the program is measured by the estimated program impact for participants. As previously explained, program impact of Job Development was varied: good for some options but a failure for other options.

Job Entry Program

The Job Entry Program targets individuals having difficulty making the transition from school or home to work (youth and female re-entrants) with the objective of providing on-the-job and off-the-job training to improve participants' employability and earnings. This program comprises three options:

1. The Entry Option targets youth who have worked less than 26 of the past 52 weeks and gives priority to those without a secondary degree. Employment and Immigration Canada contracts Manager Co-ordinators (MC). The MC are then responsible for developing training plans, finding training place hosts (TPH), selecting and hiring

trainees, and monitoring program success. TPH are employers who host on-the-job training.

2. The Re-entry Option targets women who have left the labour force for three years or more and women who are working part-time and want to enhance their labour force attachment. The method of pursuing the program is identical to the Entry Option.

3. The Direct Purchase Option (DPO) provides institutional training for youth and re-entrants who meet the above requirements but need more job preparatory courses.

Program Impact

The results from three evaluations are summarized in table 3. The results report the impacts of the Job Entry Program using four indicators: (i) employability - proportion of time employed (ii) annualised hours (iii) annual earnings (iv) employment status - employed, school, training or otherwise. A positive number indicates employed, school, or training and a negative number indicates other status (i.e. unemployed).

table 3: The Impacts of the Job Entry Program

		employability	Annualised hrs employed	Earnings	status
1. Abt Associates[a]					
Entry:	male	0.38*	778*	$6,878*	0.11
	female	-0.10*	33	$957*	-0.17
Re-entry:	female	-0.08*	213*	$2,620*	0.13
DPO:	male	-0.18*	-297*	-$888	-0.38
	female	0.04*	311*	$904*	0.13
2. EIC[b]					
Entry:	short-term	0.19*	-	$3,721*	-
	long-term	0.03	-	$1,825	-
Re-entry:	short-term	0.23*	-	$5,065*	-
	long-term	0.06*	-	$2,818*	-
DPO:	short-term	0.12*	-	$1,508	-
	long-term	0.07*	-	$3,026	-
3. Park et.al.[c]					
All participants		0.08*	-	-	-
1988 participants		0.11*	-	$4,461*	-
1989 participants		0.13*	-	$2,430*	-
1990 participants		0.04	-	-	-

* Achieves significance at the 5% level.

a,b,c Estimated earnings impacts are in 1986, 1992, and 1986 dollars, respectively.

The Abt Associates evaluation (1989) produced fairly positive results. However, results are diverse, making some options targeting specific groups more successful than others. The Entry option was successful for male participants. Male participants experienced a gain in employability, annual hours and earnings. On the other hand, female participants did not experience positive program impacts except for a small increase in earnings. The Re-entry option was effective in increasing participants' earnings. The decline in employability combined with an increase in the number of hours worked per year suggest that when participants are employed it was full-time. The DPO option induced positive effects for female participants but was ineffective for male participants. The results for female participants in this option are not as favourable as those in the Re-entry option. Moreover, the Job Entry Program had no effect on participants' employment status. That is, the program had no effect on whether participants were employed, in school, training, or otherwise.

The EIC evaluation (1993) estimated the short and long-term impacts of program participation. The evaluation shows that participants experienced gains in employability and earnings. However, positive short run gains diminished in the long run. Also, evidence suggests that the Re-entry option is most successful in creating long-term impacts on participants' employability.

The Park, Power, Riddell, and Wong (1994) evaluation indicates that the Job Entry Program induced positive employability and earnings effects for UI recipients. Therefore, in aggregate the program was successful for the average participant who was receiving UI prior to the program.

Costs

The average cost per participant was as follows: Entry - $7,415; Re-entry - $10,427; DPO - $2,994. It is difficult to determine which option was most cost effective. The Re-entry option was the most costly but it was very effective. The DPO option was the least costly but it was also the least effective.

Evidence of direct effect - improving matching

Evidence suggests that the Job Entry Program aimed to improve the matching process by enhancing search intensities and imparting skills that better match the needs of employers. According to trainees, classroom training comprised job search techniques (75 percent), improving work habits (74 percent) and building confidence (72 percent), which all contribute to enhancing search intensities. Classroom training also trained participants to perform specific jobs (70 percent) and worked at improving literacy skills (49 percent). Managing Co-ordinators and Training Place Hosts both report a similar mix of training between improving search intensities and imparting new skills.

Training to impart skills that match the needs of employers was more effective for participants in the Re-entry option; 60 percent of participants indicated that the program

was necessary for them to obtain their post-program jobs. 44 percent of Entry participants and 40 percent of DPO participants responded similarly.

Another factor affecting program impact includes the placement for on-the-job training. Placement with only one TPH implies a longer training duration with that host. More employer/participant contact enhances the likelihood of retention. Retention is more likely because firms can cheaply impart firm-specific skills and on-the-job training reduces imperfect information regarding the suitability of a match. During the evaluation period, 4,504 TPH participated, training an average of 4.6 trainees for an average duration of 16.8 weeks. Almost 40 percent of the TPH hired participants. Of the TPH who hired, they hired an average of 1.9 participants.

Evidence of indirect effects

There is scant evidence regarding indirect effects induced by the Job Entry Program. However, Job Entry's favourable results are partially offset by the practice of *creaming*. Creaming occurs when program facilitators choose better candidates to participate in programs rather than focusing on those who really need assistance. Both MC and TPH tended to choose candidates based on skills and education, and evidence of motivation and positive attitude rather than evidence of real need; thus, effectively creaming for better participants. Creaming makes it difficult to distinguish between positive program impacts resulting from good trainees or positive impacts resulting from a good program. Individuals most likely to succeed in a training program are also most likely to succeed without the program; thereby causing high deadweight loss effects.

Also, evidence indicates some substitution and labour force effects. Although the Job Entry Program did not financially subsidize wages, output produced by trainees acted as an indirect subsidy. However, there is no evidence that firms reduced their hiring activity. Furthermore, only 35 percent of TPH responded that they would pay wages if they were required. This indicates that the other 65 percent of TPH did not consider Job Entry trainees substitutable for other workers. This effectively limits the amount of substitution induced by this program.

The program targeted youth and female re-entrants. The nature of this target makes it likely that the Job Entry Program incited labour force effects by encouraging labour force participation. As explained in section IIb, encouraging labour force participation lowers regular employment, thereby offsetting the direct effect.

Net effect on unemployment

The Job Entry Program has shown substantial success in improving participants employability. Improvements in participant employability implies that the Job Entry Program improves the matching process, thereby inducing a direct effect. However, evidence concerning indirect effects is lacking. Lack of evidence makes it difficult to determine the likely net effect on unemployment. Given the program produced a positive impact, one cannot reject the success of Job Entry in reducing unemployment.

Skill Shortages Program

The Skill Shortages Program provides financial support for employers to train workers in high demand skills deemed to be in short supply. Skills in short supply are designated nationally, regionally, or according to equity groups. Financial support continues for a minimum of 80 days and a maximum of three years. Support is in the form of a 60 percent wage subsidy during off-the-job training and 25 percent during on-the-job training with a ceiling of $7.50 per hour or $300 per week. Also, training costs are subsidized. This program targets employed and unemployed workers. There are no specific eligibility requirements. The Skill Shortages Program comprises four options:

1. The Work-place Based Training (WBT) provides a 25 percent wage subsidy to employers for training new hires or existing employees. Trainees either upgrade skills or acquire new skills. Training consists of on-the-job training which can be supplemented with institutional or off-the-job training.

2. The Direct Purchase Option (DPO) provides institutional training to UI-eligible individuals or employed workers looking for a change. Unemployed participants are not considered to be job-ready but are ineligible for other programs (i.e. Job Development, Job Entry, etc...).

3. The Indirect Purchase Option (IPO) allows a co-ordinating group to purchase institutional training for trainees for an employer or a group of employers. Most trainees are employed prior to program participation but candidates may be unemployed.

4. The Relocation & Travel Assistance (RTA) Option facilitates job-ready workers to relocate to areas if they possess skills designated as being in short supply in those areas. This option has not been formally evaluated.

Program impacts

The results from two evaluations are summarized in table 4. Program impacts are measured using three indicators: (i) wage (ii) annual earnings (iii) employability - proportion of time employed. The first indicator measures the increase in productivity of workers employed prior to the training program. Wages are assumed to accommodate increased productivity through training. The two latter indicators measure program impacts for trainees who were unemployed prior to the program. Earnings and employability capture the program impact on labour market performance.

table 4: The Impacts of the Skill Shortages Program

	wages	annual earnings	employability
Abt Associates[a]			
DPO: employed	$1.40*	-	-
unemployed	-	$5,110*	0.25*
IPO: employed	0.25	-	-
unemployed	-	$8,185*	0.52*
WBT: employed	$1.02	-	-
unemployed	-	$11,782	0.46*
Park et. al.[b]			
All participants from DPO, IPO & WBT	-	-	0.04
1988 participants	-	$6,188*	0.09*
1989 participants	-	$816	0.09
1990 participants	-	-	0.00

* Achieves significance at the 5% level.

a,b Estimated earnings impacts are in 1981 and 1986 dollars, respectively.

The evaluation of the Skill Shortages Program performed by Abt Associates (1991) produces positive results. Program participants experienced improvements in their employability that can be attributed to program participation. In particular, the program was successful for participants who were unemployed prior to the program. DPO was successful for both employed and unemployed workers while IPO was only successful for unemployed workers. Moreover, IPO improved unemployed workers' earnings and employability more than DPO. WBT succeeded in improving unemployed workers' employability.

The Park, Power, Riddell, and Wong (1994) evaluation of the Skill Shortages Program indicates that only participants in 1988 experienced positive program impacts. In aggregate, this program induced some positive program impacts but was generally ineffective.

Costs

The average cost per completer was as follows: DPO - $10,423; IPO - $5,586; WBT - $4,400. For workers who were unemployed prior to program participation, WBT produced the largest program impact (an earnings gain of $11,782) and was the least costly. For unemployed participants, WBT is the most cost effective followed by IPO and then DPO. For employed workers, DPO produced the largest impact (a wage gain of $1.40) but it also cost the most.

Evidence of direct effect - Improving matching

The evaluation performed by Abt Associates (1991) estimates that during the evaluation period the Skill Shortages Program contributed to a five percent reduction in total skill shortages, implying an improvement in matching. However, improving matching contributes to the reduction in unemployment only if it focuses on unemployed workers. Targeting employed workers has no effect on unemployment unless firms hire to fill their old jobs. Only 28 percent of firms replaced workers while they were participating in the program. There is no information regarding replacements after the program.

The rationale motivating the Skill Shortages Program assumes the government is better at relieving skill shortages than wage premiums. Thus, the government addresses projected shortages that cannot be addressed by the private sector and/or private individuals. The government must be able to identify likely shortages and provide the type and quality of training to prevent shortages. Thus, success of this rationale depends on the effectiveness of the designation process. Skills are designated to be in short supply using three factors: (i) size of skill shortage in terms of employment base, economy, sector, and supply stream (ii) the transferability of skills across firms (the more transferable the better) (iii) special cases such as meeting quotas for specific groups.

Abt. Associates (1991) estimated that 78 percent of designated occupations were sufficiently justified by the above criteria. However, participating firms complained that the designation process was not sufficiently responsive to local training needs, and there existed time delays and inflexibility regarding the length of courses. This evidence suggests that the government experiences some problems in identifying skill shortages. Allowing wage premiums to identify shortages may be more efficient. On the other hand, the majority of trainees indicated that their post-program jobs required higher skills, suggesting the government was successful in identifying shortages.

Evidence of indirect effects

There is limited evidence regarding indirect effects. The available information shows that some deadweight loss and substitution occurred. Most firms participated in the program because of a shortage in qualified labour (65 percent) which supports the rationale of the program. However, some firms indicated that they prefer training to hiring qualified labour (17 percent), suggesting deadweight loss. Other firms participated because wages of qualified workers were too high (six percent) or it was cheaper to hire trainees (ten percent). This latter reason suggests substitution occurred. Moreover, 42 percent of participating firms indicated that they would not have trained any workers without the program. The remaining 58 percent would have done at least some training. Hence, this is another form of deadweight loss.

Net effect on unemployment

The nature of the Skill Shortages Program is to improve the matching process by reducing structural mismatch. Positive program impacts show that the program experienced some

success in improving matching. The Skill Shortages Program was particularly successful in improving the employability of unemployed participants. However, the lack of evidence regarding indirect effects makes it difficult to determine the net effect on unemployment. At this point, one cannot reject the success of Skill Shortages in reducing unemployment.

Skill Investment Program

The Skill Investment Program aims to assist individuals whose employment is subject to change or elimination resulting from technical or market change. The program uses training, relocation assistance, and other measures to help these people adjust. The Skill Investment Program comprises four options:

1. The Retraining Option assists employers in training or retraining their employees. Assistance is in the form of wage subsidies and training costs reimbursement. Training must be in occupational skills where the demand for these skills exceeds the supply. Training duration is a minimum of 80 hours and may last up to three years.

2. The Training Trust Fund (TTF) Option uses the interest of a fund to upgrade skills or develop new skills for workers. The fund is set up by an employee association, union or group of employees in co-operation with their employer. Employment and Immigration Canada contributes 50 percent to the fund up to a maximum of $200 000 in the first year, and 33 percent up to a maximum of $100 000 in the second and third year.

3. The Direct Purchase Option (DPO) provides institutional training to individuals to improve their employability and earnings. Training courses are purchased directly by EIC.

4. The Indirect Purchase Option (IPO) provides training purchased by a co-ordinating group representing an employer or group of employers. The co-ordinating group is reimbursed for its purchases of training.

Program impacts

The results from one evaluation are summarized in table 5. The results report the impacts of the Skill Investment Program using three indicators: (i) employability - proportion of time employed (ii) annual earnings (iii) wage. Results report the impacts of the Skill Investment Program on participants relative to non-participants who received no training.

table 5: The Impacts of the Skill Investment Program

	employability	earnings	wage
Ekos Research Ass.			
Re-training	0.110*	$2,441*	3.22*
TTF	0.263*	$8,921*	6.86*
DPO	0.057	$1,457	1.46
IPO	0.058	-$152	-0.64

* Achieves significance at the 5% level.
a Estimated earnings impacts are in 1990 dollars.

The evaluation of the Skill Investment Program by Ekos Research Associates (1992) shows that some options experienced successful outcomes while other options did not. The options that combined participation of employers and employees tended to be more successful (i.e. Re-training and TTF). The Re-training Option improved labour market outcomes for program participants on all accounts. Participants experienced a gain in employability, earnings and wage level. However, when compared to non-participants who sought training elsewhere, there was no significant difference between re-training participants and the comparison group on any of these measures. The TTF Option was successful in increasing program participants' employability, earnings and wages. Results show that the DPO and IPO experienced no success in improving participants' labour market outcomes by any of the above measures.

Costs

The average cost per participant was as follows: Re-training - $1,814; TTF - $1,363; DPO - $4,100; IPO - $1,374. DPO was most expensive and the least effective option, making it least cost effective. Also, IPO's poor program impacts limited its cost effectiveness. However, Re-training and TTF were both successful in achieving positive program impacts and were both reasonably inexpensive, thereby classifying both of these options as cost effective.

Evidence of direct effect - Improving matching

The rationale of the Skill Investment Program is to assist employees whose employment is at risk as a result of technical or market change. To reduce the risk of unemployment, the program attempted to upgrade participants' skills or impart new skills on participants. In effect, the program aimed to reduce the rate of separation by providing targeted individuals with skills that better match the needs of firms. Thus, the success of the program in reducing the rate of separation is provided by program impacts reported above and whether the program targeted the appropriate individuals.

Evidence indicates that the Skill Investment Program failed to target firms and individuals subject to the most risk of losing jobs due to technical or market change. Furthermore, firms' reasons for participating in the program did not correspond to a risk of laying off

workers. Instead firms participated to improve their productivity, improve the quality of their products, improve employees' technical literacy, and/or to gain a competitive edge.

Rather than fulfil the original program objective, evidence suggests the program merely subsidized firms' training expenditures. Albeit, there exist economic rationale for subsidizing firms' training expenses but meeting that objective in not the purpose of this program.

There lacks sufficient evidence regarding program success in achieving the direct effect. In combination with the scant evidence concerning indirect effects, the evaluation does not provide a reasonable estimate of the net impact on employment. There is not sufficient evidence to reject the success of Skill Investment in reducing unemployment.

Employment Tax Credit Program[5]

The Canadian Employment Tax Credit Program (ETCP) provided a temporary tax credit of up to $2 per hour (higher rates in areas with higher unemployment) for a minimum of three months and a maximum of one year. The tax credit aimed to stimulate *incremental* employment in the private sector. Incremental employment refers to jobs created over and above the stock of employment had there been no credit. The program also aimed to improve the employability of participants. The program targeted workers who had been unemployed for at least eight weeks (later changed to two weeks). A fixed tax credit, like a fixed wage subsidy, implicitly means the program targeted low-skilled, low-wage workers since a larger proportion of their wages were subsidized.

- The ETCP subsidized a total number of 33 146 work-years between April 1978 and March 1980 at a budgetary cost of $105 million.

- The net number of ETCP jobs created is the total number of ETCP subsidized jobs less jobs displaced by the program and less jobs that would have been created in the absence of the program (deadweight loss). Approximately 13 percent of ETCP jobs displaced other jobs and 67 percent of ETCP jobs would have been created without the subsidy. Hence, the number of net work-years created was 6,689 which is about 20 percent of the total number. The budgetary cost per net work-year created by the ETCP is $9,375.

- It is uncertain how ETCP affected *regular* employment. Individuals employed in subsidized jobs are considered program participants, thus precluding these individuals regular employment status. To affect regular employment it is necessary that the program induced effects that improve participants employability.

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[5] See Gera (1988).

- ETCP had no significant impact on program participants' employability or wages relative to a control group. This indicates the program was unsuccessful in increasing regular employment.

- Results also showed that 44 percent of the ETCP participants were laid off, 21 percent were fired and 30 percent quit. This evidence indicates that job retention was almost non-existent, suggesting that very few long-lasting jobs were created as a result of this program.

- The ETCP was a broadly based program that subsidized temporary jobs which generated no long-term effects. This leads to the question of whether other methods of employment stimulation (i.e. decreasing employer taxes) are more effective and whether this particular program was too broadly based. Gera (1988) points out that reducing employer taxes across the board does not necessarily reduce unemployment because saved income often leaks overseas or into private savings.

Feepayer Option

The Feepayer Option is a growing component of UI-sponsored training. The participants under this option are UI claimants who receive income support but are exempt from job-search while they pursue training. However, participants are responsible for paying tuition fees for training. Participants are self-selected and self-directed. That is, participants locate their own training and do not pass through the needs identification and counselling process. When HRDC increased the allowable number of feepayers, the system could not accommodate the demand. In 1993-94, this option had 46,000 participants who paid on average between $800 and $1200 in tuition fees.

Program Impact

The results from one evaluation are summarized in table 6. The results report the impacts of the Feepayer Option using two indicators: (i) employability - proportion of time employed (ii) annual earnings.

table 6: The Impacts of the Feepayer Option

	employability	earnings
Park, N., et. al.[a]		
All participants	.06*	-
1988 participants	.08*	$4,816*
1989 participants	.03	-$638
1990 participants	.02	-

* Achieves significance at the 10% level.
a Estimated earnings are in 1986 dollars.

The Park, Power, Riddell, and Wong (1994) study shows that allowing UI recipients to pursue training may result in some positive employability and earnings effects. However,

these results show that training improved participants' employment prospects only in 1988. Training during the years 1989 and 1990 failed to induce significant program impacts.

At this point there is a deficiency of further evidence that evaluates the effectiveness of the Feepayer Option. However, theory postulates that when individuals must pay training expenses, the outcomes are likely to be superior to those where trainees are fully subsidized by the government. This is not surprising, as individuals self-select themselves into these courses. Moreover, since individuals choose to enter a training program and pay tuition fees, the issue concerns income support. The decision is whether the government should ease credit constraints by continuing UI payments while individuals pursue training instead of searching for a job.

Current Provincial Programs

Active labour market programs are often implemented at the provincial level. Three examples of provincial programs are presently addressed: the revision of income assistance programs in New Brunswick, the jobsOntario Program, and employment subsidies in Quebec. When there does not exist an official program evaluation, the following presentation provides a program description rather than a program appraisal.

***New Brunswick*:**

The province of New Brunswick incurs many of the same problems as the rest of Canada. Many labour force problems are a result of restructuring. This province is dominated by resource-based, slow growing industries, thereby creating a pool of long-term unemployed workers. Moreover, compared to the rest of the country, New Brunswick is characterized by a less educated workforce whose skills do not match the needs of employers. In summary, two major reasons for high unemployment in New Brunswick comprise industrial structure and lack of education.[6] These causes of unemployment can potentially be addressed by active labour market policies. The government of New Brunswick has implemented the following policies:

NB Works[7]

The NB Works program is designed to provide education and training so participants can enter the labour force at a higher wage. The program is about four years long and it includes some on-the-job training to foster labour force attachment, followed by two years of institutional training, and finally the program subsidizes private sector employment for eight months. The program commenced in May 1992 by intaking 1,000 participants. There were two more intakes of 1,000 participants in May 1993 and 1994.

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[6] Other reasons include migration patterns and payroll taxes. However, it is inappropriate to address these issues with active measures.

[7] See Milne (1995)

NB Works targets unemployed individuals between ages 18 and 45 who were recipients of social assistance for more than six months. These individuals generally have low educational attainment and little attachment to the labour force. Besides these criteria, the program specifically targets those with great potential for success. This implies that within the group that fits the criteria, the program does not necessarily help those most in need.

Evidence generated from the program so far indicates that the program is quite costly. There is $177 million allocated to the program over its six year life. With 3,000 participants, the cost is $59 000 per participant. The program has also incurred a high rate of drop-out as only 41 percent of the May 1992 intake and 65 percent of the May 1993 intake remained in the program as of May 1994. As more participants drop-out, the cost per participant rises. It is expected that about 1,500 to 2,000 will complete the program, thereby implying a cost per participant of $100 000. When accounting for the $65 million that would have been spent on social assistance in the absence of the program, the cost per participant is $75 000.

The Self-Sufficiency Project[8]

The Self-Sufficiency Project is a three year project which offers temporary supplements to earnings for participants who work at least 30 hours a week as part of a transition to permanent employment. The program targets single parent families with children who have been receiving social assistance for 12 of the past 13 months. This target group is very similar to the target group of NB Works which leads to some program overlap and will likely confound program results.

Program participants have 12 months to find employment. While they are looking for employment, participants attend money management workshops and receive job search assistance. Once participants have found employment the earnings supplement is calculated as 50 percent of the difference between their actual earnings and $25 000. The supplement is calculated at 50 percent to avoid disincentives for working.

The program has 1,300 participants and costs $15 million. The cost per participant is $11,538.

Canada-New Brunswick Youth Strategy Agreement

A program implemented jointly by the federal government and the New Brunswick provincial government targeted disadvantaged youth. Typically youth lacked a grade nine education. The program was ongoing for seven years (the late 1980s to 1995) and cost $165.4 million. The program aimed to improve the earnings or employability of participants while reducing dependence on unemployment insurance and social assistance. Alternatively, the program sought to encourage further education. Program evaluation

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[8] See Milne (1995)

results indicate that the program was ineffective. The program did not improve employment prospects and also increased dependency on social assistance. Moreover, the program failed to have an effect on participants' educational prospects.

Ontario

jobsOntario

jobsOntario provides a training credit to a private sector employer of up to 35 percent of a new employee's annual wage or salary up to a maximum of $10 000. The credit aims to offset hiring costs and training costs. The job must be a new and permanent position for at least a year. The new employee must have been receiving social assistance or exhausted unemployment benefits, implying the target group comprises the long-term unemployed. If individuals are not considered to be job-ready, they receive pre-employment training free of charge. This training may include courses in math, language, computer skills, driver's education, or job search techniques.

The program commenced in 1992 and will end in 1997 and lacks any official evaluation. The government of Ontario claims that jobsOntario has been effective. They report that as of October 14, 1994:

- Almost 50 000 people are working full-time as a result of this program.
- Average wages for participants continue to be approximately $20 500, well above program expectations of $15 000 a year.
- 60 percent of the jobs filled are in managerial, professional and high skilled occupations. 30 percent of the jobs require secondary school and less that two years of experience or specialized training. Only ten percent of the jobs would be considered low-skilled, entry-level jobs.

This evidence is very preliminary and does not provide information regarding the net increase in jobs. This program likely incurs large deadweight and substitution effects which lower the resulting net effect on employment. However, it is difficult to draw conclusions without official evaluations.

Quebec

Programme d'aide à l'intégration en emploi[9]

Quebec's Programme d'aide à l'intègration en emploi (PAIE) is one of six programs that targets the employable unemployed. Implemented in May 1990, the program focused on unemployed workers who had been on welfare for at least six months during the previous year. The program subsidized jobs for up to 26 weeks. The maximum subsidy in the private sector was $160 per week while in the public sector or non-profit sector the

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[9] See Reynolds (1995).

maximum subsidy was $205 per week. During the program participants maintained the health care benefits they received as welfare recipients. The incremental cost of the program was about $1,750 per participant. From March 1990 to March 1993, 33 703 unemployed workers participated in PAIE. After the program, participants who failed to retain a job received unemployment insurance.

Evidence shows that PAIE improved the participants' ability to find a job but had no effect on whether that job was permanent. During the 19 months after the program, 70 percent of PAIE participants had at least one job relative to 33 percent of the comparison group. Also, during the same period participants worked on average 7.6 months. The comparison group worked on average 2.8. Therefore, PAIE generated 4.8 months of work per participant, implying 4.8 months of saved welfare payments. At $500 a month, the Quebec government saves $2,400 in welfare payments per participant. These savings are offset by the cost of subsidies, program administration costs, and the substitution effects. Half of the private sector employers indicated that they would have hired a worker without the subsidy. Since the private sector accounts for 50 percent of the subsidized jobs, this suggests that at least 25 percent of the program participants gained a job at the expense of another individual.

Apprenticeship Programs

Apprenticeship Programs in Canada[10]

Apprenticeship programs aim to provide skills training through a mixture of on-the-job and formal classroom training. These programs are jointly funded by the federal and provincial governments: the federal government finances institutional training and either provides UI or training allowances to apprentices during periods of classroom training; the provincial governments control all other aspects of the program -- training, certification, occupational designation, wage rate, duration. Apprenticeship programs operate by having apprentices accept lower wages during a two to three year training period with the expectation of gaining accreditation, and therefore higher wages upon completion.

Apprenticeship begins subsequent to high school and the average age of the trainees upon leaving the program was 27. During 1986 and 1987, men constituted 88 percent of program participants. The most popular programs were motor vehicle mechanics (17 percent of registrants), barbers, hairdressing and beauticians (11 percent) and electrical trades (ten percent). Two-thirds of the participants had performed related work in their trades prior to participating in the apprenticeship programs.

Around 100 000 to 110 000 apprentices participate in an apprenticeship program at any time. Each year about 15 000 to 20 000 participants graduate while 10 000 to 15 000 drop-out; the percentage of participants who drop-out is about 45 percent. Abt Associates' (1991) analysis indicates that trainees who were attached to the labour force

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[10] See Akyeampong (1991) and Abt Associates of Canada (1991).

prior to participating in the program were more likely to discontinue, implying that highschool and college students entering the apprenticeship program were more likely to graduate. This analysis also shows that the earnings impact resulting from completing the program compared to dropping out is $5,724.[11] However, Akyeampong (1991) provides less favourable evidence. Table 7 shows the cost of dropping out is not very high in the medium to long-term. Program graduates were 97 percent likely to have been employed and to have worked 48 weeks over the 12 months prior to the survey. Over the same period, drop-outs were 96 percent likely to have worked and for an average of 45 weeks. Also, program graduates' wages were not considerably higher than non-graduates. Evidence regarding the effectiveness of apprenticeship programs is contradictory, therefore precluding overwhelming endorsements for expanding such programs. That is, the most appropriate approach is to improve the effectiveness of existing apprenticeship programs before sanctioning larger-scaled programs.

table 7: Attachment to trade, employability and earnings 2-3 years post-program

	Graduates	Drop-outs
Attachment to apprenticeship trade		
participants reporting employment in trade during last 12 months	88%	31%
average employment in trade during last 12 months	47 weeks	43 weeks
Overall employment experience (inside & outside trade)		
employed at time of survey	90%	82%
employed sometime during last 12 months	97%	96%
overall average employment experience during last 12 months	48 weeks	45 weeks
Earnings (average hourly wage in last job)		
employed in apprenticeship trade	$15.78	$13.50
employed outside apprenticeship trade	$13.30	$12.13

Source: *National Apprenticeship Survey*, 1989-90 as appeared in Akyeampong, E. 1991.

The Case for and Against Apprenticeship Programs

Policy makers in the United States are pushing for the implementation of large-scale apprenticeship programs. These programs aim to reduce the *chaotic* school-to-work transition characterized by high worker turnover and job search Moving towards the German style apprenticeship programs may modify school-to-work transitions so that they emulate the more orderly and smoothly functioning transitions in Germany. Canadian

[11] They measured the earnings impact by estimating earnings 12 months before the survey date minus the earnings 12 months prior to commencing the program. The difference in the earnings for completers is compared to discontinuants while controlling for selection bias.

policy makers can gain valuable insight by following discussion surrounding this U.S. policy debate. In particular, analyses of apprenticeship programs (Heckman 1994) expose the benefits and the failures of such systems.

The German educational system sorts youth in grades four to six into three alternative streams: Hauptschule, Realschule, and Gymnasium. The Hauptschule stream obtains a grade nine or ten education before entering a three year apprenticeship program. The Realschule stream obtains a grade ten education before continuing in the *dual* apprenticeship system of work and learning. Finally, the Gymnasium stream is destined to complete high school and enter university. Low wages encourage firms to hire and train apprentices leading to a prospective job-match. The wages are about 22 to 33 percent of full-time professional wages.

The benefits of apprenticeship programs are as follows:

- These programs are designed for non-academically oriented youth so they can learn skills tailored to meet the needs of the market. At the same time, apprenticeship programs break the monopoly that typical educational institutions have on education and training. These factors aim to enhance the productivity of lower-skilled workers.
- The objective of these programs is to improve education and training incentives of youth by guaranteeing economic returns with the accreditation of recognized skills.
- Low wages encourage the employment and training of youth.

The failings of apprenticeship programs are as follows:

- Accrediting skills often works as an excuse for restricting the supply of labour and increasing wages.
- Apprenticeship programs prevent and postpone job search and turnover which are both a major source of increases in productivity and wage gains.
- Accreditation does not certify or predict the value of firm-specific skills. Therefore, apprenticeship programs tend to promote general skills because they are easier to measure.
- The bulk of teenage unemployment is concentrated among a very specific group of teenagers (i.e. those with a poor family background, minorities, and with a poor education attainment). These problems can be more aptly remedied with specific programs such as a Canadian Job Corps program. There may be no need to redesign the entire system of education and training to capture these difficult cases.
- Apprenticeship programs tend to produce inflexible labour supply with very specific skills. It follows that if these workers were ever displaced there is less chance for effective retraining. This may explain why Germany has a higher rate of adult unemployment.

Recently the German system has been experiencing hard times. For instance, most apprentices take jobs with other firms and in different occupations than their field of expertise. Moreover, in 1993 the metal industry retained less than half of its 130 000 apprentices. This indicates that the guaranteed economic return with respect to the apprenticeship program is disappearing. In fact, a higher proportion of German youth are choosing higher education rather than the apprenticeship program.

VII. International Micro Evidence

OECD[12]

The OECD Job Study has classified labour market programs into three categories: labour market training, youth measures and subsidizing employment.[13] Labour market training involves training programs for unemployed adults. Youth measures target unemployed and disadvantaged youth. Subsidizing employment either involves supplementing wages for employment in the private sector or creating jobs directly. International evidence on the impacts of labour market programs provides mixed results. For instance, similar programs implemented in different countries may have widely divergent results, making it difficult to generate any broad conclusions. However, analyzing international evidence clearly produces one generalization: labour market programs are more effective when targeting specific labour market problems rather than broadly targeting unemployed individuals. Targeting specific labour market problems enables the identification of training needs, thus generating a more effective program.

Training unemployed adults and those at risk

Programs training unemployed adults and those at risk are divided into programs with broad targets and programs with specific targets. The evaluations of six programs that broadly target unemployed workers provide scant evidence of program effectiveness. On the other hand, evaluations of three programs with specific targets tend to illustrate positive impacts attributed to program participation.

Impacts of programs with broad targets:

- In the United States a demonstration project offered training to unemployment insurance claimants over and above the usual job search assistance. Evaluations showed that individuals receiving training did not experience an increase in job earnings relative to individuals who did not receive training.

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[12] OECD, *Employment Outlook* 1993 and OECD, *Jobs Study* 1994.

[13] The OECD also includes two additional categories, measures for the disabled and public employment services and administration. These categories are not discussed within this survey as these programs are not the focus of the review.

- Germany offered programs that provided further training to employed and unemployed workers and provided retraining to unemployed workers. During 1987 and 1988 the programs had no effect on the flows out of short-term or long-term unemployment.

- In the Netherlands, adult vocational training was ineffective at improving participants' ability to find a job. There was no difference in the amount of time taken to find a job as a result of the program. Moreover, two years after the program, participants' employment situation was no different than non-participants.

- The U.K. implemented a skills training program in 1986 which provided off-the-job vocational courses. Evaluations assert a positive program impact. Program impact on the employment rate was about 25 percent for males and 20 percent for females. The program also induced positive earnings effects.

- Norway and Sweden run large training programs with several training options. Evaluations indicate Norway experienced improvements in employment and Sweden increased participants' wage earnings by 20 percent one year after the program and by 30 percent two years post-program. However, these evaluations are suspect because of methodology problems. These types of problems will be discussed later.

Impacts of programs with specific targets:

- In accordance with the Job Training Partnership Act (JTPA), the U.S. provides training for disadvantaged workers. The program improved employment for women by around two to three percent, increased hours for men, and increased earnings for women by seven percent. The program induced the greatest impact for workers suffering from moderately severe problems. That is, individuals incurring only one of the following disadvantages: previously depending on welfare, lacking a high school diploma, or lacking recent work experience.

- In the Netherlands, the Centres for Vocational Orientation and Training targeted disadvantaged unemployed workers. These centres produced only a small impact on employment.

- The U.S. provided a combination of training and work experience under the National Supported Work (NSW) program to females requiring assistance for families with dependent children (AFDC). Evidence indicates that three years after the program, participants' earnings rose by 23 percent and employment and working time also improved. Furthermore, eight years after the program, participants were still experiencing positive employability effects.

Measures for the unemployed and disadvantaged youth

Measures for the unemployed and disadvantaged youth generally focus on unemployed school leavers and emphasize those who have not completed high school. Focusing on this group creates more difficulty for programs because these young workers often lack

the motivation for training. Evidence from international evaluations of youth programs produces mixed results.

- In the U.S. youth participating in the NSW demonstration experienced no rise in employability or earnings. However, the program did reduce criminal activity of participants.

- New Zealand offers the ACCESS program which provides job-related training options for individuals for whom training is unsuitable or unavailable. The program only induced minor outcomes.

- Ireland provides training and work experience to disadvantaged youth. Program participants experienced positive employment effects. The proportion of people placed in jobs by the end of the program increased by around 15 to 20 percent. A year after the program the proportion of people place in jobs increased by 20 to 25 percent.

- In the U.S. the Job Corps program requires participants leave home for training and other activities. The program produced positive results for youth from problematic inner city areas. Also, the program improved participants' educational attainment and reduced delinquency, thereby producing a positive net social benefit.

The results of programs focusing on youth are mixed. Disappointing results tend to be connected to countries who stress high educational attainment. In an environment of highly educated young people, drop-outs fact greater risks of social and economic marginalization, making it difficult for programs to improve participants' employability. However, programs tend to be more successful if they are highly specialized with respect to the needs of the particular target group.

Subsidies to employment in the private sector

Programs subsidizing employment in the private sector are divided into programs with broad targets and programs with specific targets. Programs with broad targets incur severe deadweight loss problems. That is, many participants would have been hired without the program, thus the subsidy is a windfall to employers. Programs with specific targets suffer from substitution problems. For instance, members of a target group are employed at the expense of workers outside the target group. Depending on the objective of a program, a large substitution effect may be acceptable if the program improves the employability of members of a disadvantaged group.

Impacts of programs with broad targets:

- Ireland's Employment Incentive Program and Australia's Jobstart Program both offer subsidies to firms in the private sector to employ workers. These programs incurred a deadweight loss that accounted for about 70 percent of participants, implying that only 30 percent of participants were hired as a result of the subsidies. Moreover, the evaluation of the program in Ireland estimated that the program also suffered a substitution effect of 21 percent and a displacement effect of four percent.

Displacement effects refer to job losses in other firms resulting from subsidies changing the product market. In effect, the program in Ireland increased employment by five percent of the total number of participants.

Impacts of programs with specific targets:

- In the Netherlands, subsidies were used to promote recruitment for those out of work for more than two years. A program evaluation showed that the deadweight loss was not significant but the substitution effect was substantial. Employers indicated that about 11 to 24 percent of the subsidized jobs were incremental as a result of the program. Most jobs (about 76 percent) were created at the expense of other workers.

- The U.S. offered the Targeted Jobs Tax Credit program to promote employment of disadvantaged individuals from urban populations. In 1985, the subsidy covered half of the eligible wages for two years. Evaluations indicate that if a subsidy was low and of short duration, retention was less likely. Results also failed to illustrate any long-term program impacts. Another problem occurred which accounts for the ineffectiveness of the program. One method of implementation involved vouchers. Participants hand their vouchers to employers to encourage employment. However, results show that vouchers stigmatized participants.

The lack of evidence concerning the impact on participants' employability after the program is a significant failure of evaluations. When evaluating employment subsidies, attention tends to focus on the gross employment impact. Given the emphasis of this evaluation, attention must concentrate on the impact on individuals' employability after program participation. Unfortunately, the lack of evidence on post-program impact precludes justifying program expansion.

More on subsidies[14]

An objective of employment subsidies is to reduce the cost of labour relative to other inputs, thereby increasing the demand for labour. The extent to which this objective is achieved depends on the elasticity of labour demand, the level of subsidy and the whether the economy is growing or experiencing a downturn. Subsidies produce greater gains in employment when the demand for labour is more elastic (Hamermesh 1978). Elasticities vary according to the type of labour demanded; low wage labour is more elastic. However, reducing the cost of labour in a recession will not greatly increase the demand for labour. During a recession firms are using a fixed stock of capital and generally substitute between labour and capital only when output is expanding. Moreover, aggregate employment in an industry rises to the extent that the average cost of labour declines (Addison 1979). Marginal employment subsidies cause only a small decline in the average cost. To substantially lower the average cost of labour would be costly. The

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[14] See Todd (1986).

higher cost not only includes the actual subsidy but also the larger costs associated with deadweight loss and substitution.

In light of this evidence, subsidies are most effective when they target specific individuals and are implemented during the recovery phase of a mild recession.

U.S. Programs

There exist a plethora of information regarding the effectiveness of U.S. active labour market programs (Gueron and Pauly 1991, Glazer 1995, Burtless 1995, Heckman 1994, Bassi and Ashenfelter 1986, Burtless 1989, Barnow 1987). Since the early 1960s U.S. programs have focused on alleviating poverty and welfare dependence.

In 1962, the Manpower Development and Training Act (MDTA) was implemented with the objective of providing vocational and on-the-job training for displaced workers. The MDTA programs targeted disadvantaged workers with hard-core unemployment problems. Moreover, during the 1960s, programs began to target welfare recipients and disadvantaged youth. A growing problem of welfare dependence involved single mothers receiving AFDC (aid to families with dependent children).

The Comprehensive Employment and Training Act (CETA) passed in 1973 redesigned the government's policy on active spending so that programs increased the focus on the disadvantaged. In 1982, the Job Training Partnership Act (JTPA) replaced CETA, although the principles governing the new Act did not significantly differ. The main difference was that the federal government imparted more responsibility and program flexibility to the states. At the same time, the federal government reduced resources designated for active policies. In 1980, the government spent $9.3 billion on active policies. By 1986, the government only spent $3.7 billion. The evaluation results of U.S. programs are presented in chronological order.

- Manpower Development Training Act (MDTA) program provided classroom training to disadvantaged workers. For participants in 1964, the program increased males annual earnings by $200 and black females earnings by $550 per year (approximately 1968 dollars). However, other studies produce widely divergent results, including negative earnings impacts. Divergent evidence suggests the methodology produces unreliable results.

- The Job Corps program was implemented in 1965 and it still exists today. Job Corps targets extremely disadvantaged youth between the ages of 16 and 21. Evaluations show that the program has significantly improved employment and earnings. Also, the program reduces welfare and UI dependence, crime, and out-of-wedlock births. In 1977, evidence indicated that program benefits exceeded costs by 40 percent. The program is costly ($20 000 per participant in 1994) but it provides a rate of return of about eight percent.

- In 1967, the WIN (work incentive) program was established with the aim of reducing welfare dependence. In addition to altering benefits to encourage work, the government created a counselling and training program to aid participants in seeking and retaining jobs. A number of program options existed: vocational or occupational classroom training, basic education, counselling and job placement assistance, paid work experience in the public sector, and unpaid work experience in the public sector.

    - Based on evaluations comparing 4,000 participants with a comparison group of 5,000, results show that the program increased earnings. In approximately 1975 dollars, participants' annual earnings one year after the program increased $570 relative to the comparison group. Two years post-program the earnings impact was $520 per year. Three years after the program the impact had diminished to $340 per year. Also, the program produce larger impacts for women who were the most dependent and least employable. The program improved the earnings of women with previous work experience by $260 to $360 while women without work experience had an impact of $920 to $980.

    - The Louisville WIN Labs study is an experimental evaluation determining the program impact for participants in 1978-79. Participants received three days of group instruction in job search techniques followed by six weeks of monitored job search. The earnings impact was $400 annually 15 months after participation (in 1985 dollars).

- Programs affiliated with CETA produced positive impacts for women but not for men. Women experienced a gain in earnings of between $600 and $1,200. Higher earnings resulted from an increase in the number hours of worked rather than higher wages. Moreover, those with the least labour market experienced the greatest gains.

- The Youth Employment Development Program Act, implemented in 1977, produced impacts consistent with Job Corps. The program was most effective when combining intensive remedial education and training in job search.

- In the late 1970s the National Supported Work Demonstrations targeted four disadvantaged groups: long-term AFDC recipients, ex-addicts, ex-offenders, and young school drop-outs. The program provided participants with 12 months of tailored work experience. An experimental evaluation showed that the program was only successful for AFDC recipients in terms of improved earnings and ex-addicts in terms of reduced crime.

    - For ADFC recipients, typically single mothers, the program was very costly ($22 000 per participant in 1990 dollars). The program improved their employability by 8.5 percentage points and increased their annual earnings by $1,800. However, participants ADFC and food stamp benefits fell by $1500. This gives a net program impact of about $300. This amount is not sufficient to alleviate poverty.

- The Employment Opportunity Pilot Project (EOPP) guaranteed program participants public service sector jobs if they failed to find jobs after a well monitored job search of six to eight weeks. The program increased the employment rate of ADFC participants by three to four percentage points. Unsubsidized earnings increased by $300 per year during the two years after program participation. However, the program resulted in higher welfare benefits, likely because the EOPP program made welfare less onerous. Improving the state of welfare increases the rate of entry or reduces the rate of exit, thereby increasing the number of recipients.

- During the early 1980s the Homemaker-Home Health Aide Demonstrations trained and subsidized employment. After the program participants provided home health care services to functionally impaired clients. This program was costly ($11 000 per participant) but it produce positive impacts. During the two years after the program, participants experienced an increase in annual earnings of $1,300. The program often resulted in reduced dependence on welfare and food stamps.

- As the states gained more control over active policies during the 1980s, programs were made mandatory. That is, if eligible clients failed to participate in a program they were penalized with reduced benefits. Experimental evidence from six states produced reliable results. The evidence comes from Arkansas, Illinois, Maryland, San Diego, Virginia, and West Virginia. The program comprised training for resume writing, interviewing, and job hunting. In some cases the program involved general education or occupational training.

    - There were positive earnings gains in four of the six locations (not Illinois or West Virginia). The largest gains occurred in locations with the most expensive programs (Baltimore and San Diego). Baltimore and San Diego spent $1,000 and $850 per participant, respectively. Baltimore's program produced a gain in earnings of $400 in the second post-program year and $500 in the third. San Diego's program produced an earnings gain of $550 per year six months after the program.

- In 1988, the government implemented the Food Stamp Employment and Training Program with the aim of reducing food stamp rolls by encouraging recipients to work. This mandatory program tended to target young, single males who had failed to complete high school or acquire much work experience. The program spent on average $110 per participant with the aim of providing job search assistance, work experience, or skills training. For the most part, participants were only required to make a specified number of job contacts in a given time period (24 contacts in eight weeks). The program failed to have any significant impact on participants' earnings or employability (Puma and Burstein 1994).

VIII. Summary of Results Emerging from Micro Evidence

There exist a considerable amount of information regarding the effectiveness of active programs. It appears that these numerous programs have produced divergent results.

Some programs have been very effective while others have been ineffective or even had a negative impact on participants' labour market performance. The challenge is to create effective programs. To assist in meeting this challenge, a number of general conclusions that emerge as guidelines for program effectiveness are discussed below.

The results of these evaluations show that:

- Program impacts are generally modest in size. As U.S. evidence indicates, many programs enhanced individuals earnings but failed to reduce poverty. Moreover, these modest impacts tend to diminish over time.

- Programs are least effective for the most advantaged participants. Advantaged individuals are likely to perform well without participating in the program. Therefore, programs targeting more advantaged workers are likely to suffer from more deadweight loss. It follows that programs should focus on the most disadvantaged, enhancing the possibility of incremental program impacts.

- Investing more resources into a program will enhance its effectiveness. As Heckman (1994) emphasizes, no cheap training solution has yet to be found. In the United States, to raise a woman on welfare out of poverty by increasing her earnings by $5,000 per year will cost at least $50 000.

Some programs were more effective than others. Key characteristics that make some programs effective include:

- Target specific labour market problems, for example, programs focusing on the disadvantaged or long-term unemployed workers.

- Aim to prevent rather than cure labour market problems, for instance, a program preventing long-term unemployment rather than waiting for workers to become long-term unemployed. Corak (1990b) points out that the long-term unemployed can be identified in their fourth month of unemployment. Corak implies that active programs can target these individuals early on and prevent long-term unemployment.

- Impart general rather than specific skills as they are more transferable, thus enabling a more secure and stable attachment to the labour force in the future.

- Combined with counselling and job search assistance.

- Subsidize employment in the private rather than creating temporary jobs in the public or non-profit sector. Private sector employers are more likely to retain the participants when the subsidies are discontinued.

- Female participants tend to benefit more from a program than males.

- Wait for periods of buoyant demand. Although this result does not seem surprising, recall that this is relative to what would have happened without program participation.

Non-participants are also likely to achieve more successful labour market outcomes in times of buoyant demand. In fact, a recent panel on seasonal workers in Canada (1995) surveying over 1,000 groups stressed that many dollars were being wasted on training people for non-existent jobs. Jobs are more likely to exist in times of buoyant demand.

IX. The Net Effect of Active Policies - Macro Evidence

Determining the net effect on unemployment requires macro evidence, so both direct and indirect effects can be captured. Unfortunately, available macro evidence is scarce and empirically problematic. There are three types of macro evidence: employment equations, wage equations or estimates of the beveridge curve. This evidence is reviewed below.

Employment effects

Employment equations capture all the direct and indirect effects of active policies; thereby, providing a reasonable estimate of the net effect on unemployment. The OECD's (1993) estimation indicates that countries with higher levels of expenditure on active measures experience greater employment growth as a result of output growth. That is, other things being equal, real GDP growth produces higher employment growth rates in countries where training expenditure has increased the most. However, the same study shows that independent of output growth, higher active spending causes employment growth to decline. This result captures the tendency of governments to increase active spending during a recession and decrease expenditure during an expansion. Moreover, all results are strengthened when the analysis controls for the percentage of long-term unemployed people. To the extent that long-term unemployed workers are hard-to-place workers, controlling for them should enhance the importance of training.

There are two other analyses using employment equations to estimate active policies' net effect on employment. Layard and Nickell (1991) estimate cross-country equations for open unemployment over the 1980s. The analysis uses the level of active expenditure per unemployed person as a percentage of GDP as an explanatory variable for unemployment. A similar study estimates a cross-country employment equation over the period of 1985 to 1991 (reviewed in Calmfors 1994). This study uses the level of active spending as a percentage of total labour market expenditure as an explanatory variable. These two analyses indicate that an increase in program participation by one percent of the labour force reduces open unemployment by 1.5 percent, implying a reduction in regular unemployment by 0.5 percent.

The Forslund and Krueger (1994) study used the identical employment equation and set of countries as the Layard and Nickell (1991) study and came up with exactly opposite results. Forslund and Krueger (1994) found that increasing active expenditures led to an increase in unemployment. One explanation for the contradictory results lies in the timing of the studies. Layard and Nickell's (1991) positive results may be attributed to the high levels of employment during the 1980s while Forslund and Krueger's (1994) negative

results may be explained by the high levels of unemployment during the mid-1990s. The point is that macro evidence is contradictory and unreliable.

A Canadian study (Corak 1991) determines that in the long-run active programs have no effect on the repeat use of unemployment insurance. That is, individuals who participate in active programs do not change their behaviour in the long-run in terms of the number of times they claim unemployment benefits. Another Canadian study (Baldwin and Johnson 1995) analyzed the factors that influence firms' decision with respect to training. Their results suggest that when there is a need for training (e.g. to complement innovation strategies and strategies to produce high quality product), the market seems to work.

Wage Effects

Many studies have estimated the wage-setting schedule as described in the theoretical framework (drawn as WS in figure 12). These estimations capture the indirect effects that cause the wage setting schedule to shift: matching, competition for insiders, crowding-out, and productivity. Since wage equations capture a good portion of the effects generated by active policies, the estimations provide some indication of the net effect on wages, hence employment.

The estimation of the wage equation for Sweden indicates that increasing participation in active programs shifts the wage setting schedule upwards (Calmfors and Forslund 1991). That is, for a given rate of employment, more program participation caused a rise in wage pressure. Rising wage pressure was largely attributed to the indirect effect - crowding-out. Crowding-out occurs when expanding active policies reduces the welfare loss associated with unemployment, thereby weakening incentives for wage restraint. Crowding-out reduces regular employment and increases real wages. Other studies show that crowding-out effects occurred in Finland and Denmark, but not in Norway (studies reviewed in Calmfors 1994).

The OECD (1993) wage analysis estimates the effects of active policies on wages for 19 OECD countries. Results from the majority of countries support the hypothesis that increasing program participation moderates wage pressure. However, results from seven countries indicate that increasing program participation neither moderated nor increased wage pressure. Canada is one of the latter countries where active programs had no effect on the wage setting schedule.

Evidence of active policies shifting the beveridge curve inward

Calmfors (1994) points out that macro evidence concerning the effects of active measures on the beveridge curve is problematic and conflicting. Many studies determining whether the expansion of active policies induce the beveridge curve to shift inward define the curve as the relationship between open unemployment and vacancies rather than regular unemployment and vacancies. Open unemployment excludes program participants whereas regular unemployment includes the openly unemployed and program participants. When focusing on open unemployment, expanding active measures surely reduces open

unemployment as more unemployed workers move from being openly unemployed to participating in a program. Even if active policies have no effect on matching, studies show that the expansion of active programs induces the beveridge curve to shift inward. To truly measure the effectiveness of active policies in improving the efficiency of matching, studies need to focus on the relationship between regular unemployment and vacancies.

Studies defining the beveridge curve as the relationship between regular unemployment and vacancies produce conflicting results. The results of the studies reviewed by Calmfors (1994) support conflicting hypotheses: active policies maintain or improve matching efficiency (shift the beveridge curve inward); active policies have no effect on matching efficiency (do not shift the beveridge curve); and particularly disturbing, active policies reduce matching efficiency (shift the beveridge curve outward). Inconclusive results concerning the effects of active policies creates difficulties for proponents of expanding active measures. Proponents of increasing expenditures on active policies aim to improve the matching process and reduce unemployment. However, these policies may actually impair matching and increase unemployment.

In summary, macro evidence, in its attempt to determine the net effect of active policies on unemployment, produces contradictory and unreliable results. All three types of macro evidence (employment equations, wage equations and estimations of the beveridge curve) fail to establish conclusive results.

X. Problems with the Micro and Macro Evidence

At this point, having reviewed the micro and macro evidence, it is prudent to identify problems prevalent in these studies. Unfortunately, the picture that emerges casts more doubt on the effectiveness of active labour market policies.

Problems with micro evidence

Micro evidence refers to results of program evaluations. Recall that program evaluations measure the average gain in a participant's employability relative to their employability had the program not existed. Establishing the employability of participants in the absence of the program requires the construction of a comparison group of non-participants. The method of constructing a comparison group can either be random or proxied to be random, reflecting experimental and non-experimental evaluations respectively. Experimental evaluations are assumed to yield the true impact of a program (Moffitt 1991). However, program evaluations typically involve non-experimental methodology.

Non-experimental methods select non-participants who proxy for a randomly assigned comparison group. Evaluators match the comparison group and the group of program participants according to measurable characteristics. However, evidence suggests that non-measurable characteristics bias constructed comparison groups. For instance, a characteristic such as motivation likely influences an individual's probability of program participation as well as affect a person's employability in the absence of a program. Thus,

program participants self select themselves into a program, rendering non-participants a non-equivalent group. A selection bias problem leads to inaccurate results (Moffitt 1991; Lalonde 1986; Björklund, Haveman, Hollister, and Holmlund 1991).

Econometric techniques to correct for selection bias exist and are employed in recent program evaluations (Moffitt 1991; EIC 1993; Barnow 1987). Despite the progress in controlling for selectivity bias, evidence exists which questions the validity of non-experimental results (Lalonde 1986; Fraker and Mayard 1987). An U.S. study comparing the results of an experimental and non-experimental evaluation of the same labour market program indicates inconsistent results. The inconsistent results are attributed to the inaccuracy of non-experimental methodology since experimental results are assumed accurate.

This evidence suggests results from non-experimental evaluations be treated with caution. Unfortunately, Canadian evaluations are solely based on non-experimental methodology.

Problems with macro evidence

One obvious problem with macro evidence involves how variables are measured. Both employment and wage equations measure the variable that defines "active policies" as the number of participants as a percentage of the labour force. Also, both the unemployment and employment rate are defined as percentages of the labour force. As a result of defining variables in terms of the labour force, these analyses fail to capture the indirect effect - effects on the labour force. Recall, expanding active programs tends to encourage more labour force participation.

A second problem refers to the economic context in which the wage or employment equations were estimated. It is likely that results will change depending on the economic context. For instance, a country suffering from high unemployment typically has few available jobs. When jobs do not exist, active policies are likely to be ineffective. However, the effectiveness of these same policies may differ in a country with low unemployment.

The most significant problem associated with these studies is the empirical problem of simultaneity bias. Simultaneity problems are more likely to occur with employment equations. Employment equations attempt to estimate the effect of expanding active policies on employment. However, a government tends to expand active policies when unemployment is high. Besides showing the response of employment to active policies the results of employment equations also reflect the government reaction to a higher rate of unemployment Thus, employment equations tend to present results that are too positive.

The issue of financing

There is a serious deficiency in the literature concerning the financing of active programs. Expanding active labour market policies costs money and requires financing. Financing active policies entails an increase in taxes, probably employer and employee taxes. For

taxes in general, a literature review suggests that it is reasonable to apply a mark-up factor of 40 percent to the cost of any tax-financed project to account for the distortionary effect of taxation. That is, expenditure on active policies must yield benefits that are at least 40 percent greater than their costs to justify their implementation. For labour taxes, literature review suggests expenditure on active policies need to yield benefits that are 25 percent greater than their costs.

Specifically, increasing employer taxes raises the cost of labour while increasing employee taxes lowers workers' effective wage. A higher cost of labour decreases the demand for labour and a lower effective wage decreases the supply of labour; thereby, reducing regular employment (recall that this is the indirect effect - tax effect). Therefore, tax increases to finance active policies offset positive employment effects resulting from these policies. This is an important factor to consider before expanding active programs. For instance, the positive employment effects resulting from a tax reduction may be greater than the employment effects associated with active policies. Unfortunately, microeconomic evidence fails to consider this issue although the distortions created by taxes is accounted for in macro evidence.

A related issue concerns the optimal size of active programs. It is well established that as active programs expand beyond a certain point they suffer from decreasing returns to scale (Calmfors 1994). As programs expand they target more individuals, thereby reducing the scope of improving the competitiveness of specific target groups relative to the rest of the labour force. Therefore, policies targeting more individuals produce smaller program impacts, diminishing the benefit per participant. Moreover, expanding programs heightens the incidence of deadweight loss and substitution. The increased incidence of adverse effects further reduces the benefits of active programs. At the same time, expanding active programs requires more financing, hence higher taxes. As taxes become larger the distortions become more significant. These two effects increasingly offset positive employment outcomes as active measures are expanded. With this in mind, the optimal level of expenditure on active policies may, in fact, be quite low.

XI. Do Active Policies Affect the Natural Rate of Unemployment?

Reviewing the literature on the determinants of the natural rate of unemployment indicates that hardly any studies include variables on structural mismatch and the level of active spending. It is either the case that researchers determining the sources of Canada's rising natural rate do not consider these variables conceptually important or have found these variables were empirically insignificant.

Researchers attempting to explain rising unemployment in Canada often consider the following sources: UI generosity, the real interest rate, federal spending, foreign activity, taxation, terms of trade, demographic factors, unionization, and minimum wages (Fortin, Keil, and Symons 1994, Fougère 1995, Card and Riddell 1993, Fortin 1989, Keil and Symons 1990, Coe 1990, Burns 1990). Fortin, Keil, and Symons (1994) find that the long-term rise in unemployment from the 1960s to the 1990s is explained by high real interest rates, adverse demographic pressures, and the effects of the 1971 UI reforms.

Coe's (1990) estimation results show that the natural rate during the 1970s and 1980s was determined by UI benefits, the minimum wage, the level of unionization, and the level of payroll taxes. Fortin's (1989) estimation produced similar results. Card and Riddell (1993), Fougère (1995) and Keil and Symons (1990) show that Canada's UI program explains Canada's higher level of unemployment relative to the U.S.. Although no study has shown that a variable for structural mismatch influences the natural rate, Burn's (1990) study attempts to include a variable measuring structural change. However, the results show that this variable had no significant effect on the natural rate during the 1970s and 1980s.

XII. Concluding Remarks

This paper has provided comprehensive treatment of the issue of the impact of active programs on labour market performance both from a theoretical and empirical perspective.

From a theoretical perspective, the impact of active policies on unemployment is unpredictable: first, active policies have to be effective in improving the matching of workers and jobs and even then they can only increase the ***potential*** for reducing aggregate unemployment; however, whether such "effective" policies, in fact, reduce unemployment depends also on a number of indirect effects which may strengthen or weaken the direct effect. Examples of these indirect effects include: the negative employment and efficiency costs of taxes needed to finance active programs; and, deadweight and substitution as some trained workers who are successful in getting jobs may have got these jobs regardless of the programs or may simply have displaced other workers.

On the empirical front, there are two options to pursue: one can directly focus on active policies and study their effects on unemployment; alternatively, one can focus on models that explain unemployment and then single out the effect of active policies. These streams of literature are quite diverse and both are pursued in this paper.

One stream of studies include the vast literature on the determinants of the natural rate of unemployment. A review of this literature shows that there are hardly any studies that include variables on structural mismatch and spending on active programs. Researchers working to understand the reasons behind Canada's rising natural rate either do not find these variables conceptually important or find them empirically insignificant. What these studies do show, in general, is that Canada's UI system has had an important effect in raising Canada's natural rate. Eliminating/reducing the distortions in the UI program would automatically reduce the natural rate.

A second stream of studies includes evidence on both the micro and macro effects of active policies. Micro studies suffer from a number of econometric problems as they naturally find it difficult to establish control groups. The workers selected for training are not picked up randomly and likely are those with the highest chance of success. Moreover, these studies ignore any negative indirect effects (e.g. employment costs of taxes to finance active programs). Despite the natural tendency of micro studies to over-predict the positive effects given these factors, these evaluation studies do not offer much support for active programs. Macro studies that control for some of these problems by capturing indirect effects show even less positive effects, if any, of active programs in dealing with unemployment.

The review of a large number of micro studies highlights the characteristics both of active programs that have been successful and others that have failed. These characteristics include the precise specification of objectives, the proper selection of the target group for which programs have been shown to be effective (e.g. the long-term unemployed, women, those with a high risk of falling into a long-term unemployment trap), effective programs to impart needed skills, appropriate timing so that workers have available jobs after finishing training, and modest program size.

The ***key conclusions*** that emerge are therefore two-fold: remove the key cause for the rise in the natural rate of unemployment, that is reform the UI program along the lines suggested by economic principles; and, active programs that are relatively small-scale and target individuals most in need are helpful in improving labour market outcomes through skill improvements leading to durable employment. Groups of workers who are most positively affected by training programs include the long term unemployed, women, and those who are caught by programs before falling into the long-term unemployment trap.

The reforms of the unemployment insurance programs announced in December 1995 deal with both these aspects: the program is being redesign to improve work incentives; and, active labour market programs are to be restructured, replacing 39 centrally-controlled programs by five "results-oriented" initiatives reinforcing individual initiatives, dealing with groups of workers who are shown to have the largest possibility of gain from training.

AI. Annex I.

A Summary of <u>Employment Development Services</u> - *A Proposal by Human Resources Development Canada*

Employment development services are equivalent to active labour market policies. HRDC's principal objective of reforming employment development services is to help people prepare for, find and keep jobs. In combination with reforming active policies, the government will build an economy with more jobs.

Reasons for Reform

There are several factors motivating the increased emphasis on reforming active policies. The following trends drive this reform:

- Over the decade 1990-2000, it is estimated that 45 percent of the new jobs created will require more than 16 years of school. In 1991, only about 25 percent of the labour force had obtained more than 16 years of schooling. This evidence indicates a skill mismatch in terms of the attributes of workers and the needs of employers.

- People are unemployed for longer periods of time: in 1978 the average duration of unemployment was 15.5 weeks; in 1993 the average duration was 25.1 weeks. Moreover, there is a higher incidence of long-term unemployment: long-term unemployment rose from 1.1 percent of the labour force to 1.5 percent between 1983 and 1993.

- The incidence of unemployment is unevenly distributed. Aboriginals, women, youth and certain regions experience higher unemployment rates.

- Repeat use of UI has been rising since 1980. In 1993, 40 percent of UI recipients were making their third claim in five years.

- Structural unemployment has increased.

- Increasing international competition pressures Canadians to improve their productivity to maintain Canada's standard of living. Investing in skills helps workers to use new technology and facilitates adaptation, allowing firms to respond to trends in international trade and production and distribution techniques.

The Current System

Spending on active policies has been increasing since 1989-90. Federal spending has risen from $2.5 billion to $3.2 billion between 1989-90 and 1993-94, representing a 25 percent increase. Over the same time period, provincial spending rose from $940 million to $1.8 billion. Federal expenditures are finance through two sources: (i) Unemployment

Insurance Development Uses (UIDU) and (ii) general revenues of the Consolidated Revenue Fund (CRF). The UIDU is only available to UI recipients and can account for up to 15 percent of the annual UI expenditures. This implies greater active spending during a recession since UI expenditures generally rise. CRF financing is available to non-UI recipients. The UIDU accounts for a higher proportion of active expenditures than the CRF. UIDU proportions have increased from 28 percent to 60 percent over the past four years while the level of CRF funding has remained fairly constant.

Expenditure on active policies is distributed over three types of policies: supply side policies, demand side policies, and adjustment measures. Supply side policies help workers become job-ready through counselling and training. Demand side policies create employment with subsidies (also implying on-the-job training) and promote self-employment. Adjustment measures match workers and jobs. In 1993-94, of the $3.2 billion spent on active policies, supply side policies accounted for 65 percent ($2.1 billion), demand side policies accounted for 19 percent ($600 million) and adjustment measures accounted for 16 percent ($500 million). In terms of the 547,000 individuals targeted by active policies, supply side measures intervened for 56 percent while both demand side policies and adjustment measures each targeted 22 percent.

When focusing on the cost of active programs, it is the net costs that are important. Net costs include only incremental costs resulting from active programs. Incremental costs include expenses such as the extra UI benefits paid because the course duration was longer than the duration of the UI claim and the direct costs of running a program. In 1993-95, the net cost of active policies was $2.7 billion.

All active measures are subdivided into four types of programs:

- Employability Improvement - This category includes programs targeting unemployed workers. Active measures range from counselling to employment assistance; pre-vocational and vocational training to wage subsidies to job finding clubs. Programs account for 82 percent of all participants.

- Labour Market Adjustment - This category focuses on the adjustment needs of employers and employees. Measures include training, human resource planning, work-sharing, adjustment services and employment equity programming. Programs account for ten percent of all participants.

- Community Development - Active measures in this category target communities and promotes job creation. Activities include community economic development, small business, entrepreneurship, self-employment, job creation and work experience. Programs account for eight percent of all participants.

- Information and Special Initiatives - This category includes measures providing labour market information and performing labour exchange functions.

A recent program of interest is the *feepayers* option. The participants under this option are UI claimants who receive income support but are responsible for paying tuition fees for training. Participants are self-selected and self-directed. That is, participants locate their own training and do not pass through the needs identification and counselling process. Evidence indicates that when programs require students to put in their own money, programs achieve superior results to those where students are fully subsidized by the government. When HRDC increased the allowable number of feepayers, the system could not accommodate the demand. In 1993-94, this option had 46,000 participants who paid on average between $800 and $1200.

Proposal for Reform

HRDC estimates the demand for employment development services is in the range of one to two million individuals. This is two to four times the actual number of participants. The demand for employment development services comes from five groupings: (i) youth having difficulty with the transition from school to work (ii) long-term unemployed adults (iii) people re-entering the labour force (iv) part-time workers who want to work full-time and (v) employed workers who want to upgrade their skills to keep their job of find better job.

A key decision is whether savings generated from the UI reform should be used to reduce UI premium rates or to increase the budget for employment development services. Other sources of funds include freeing up more funds from the regular UI benefits (i.e. more UIDU), the participants themselves, better co-ordination of federal/provincial funds, or partnerships with business and industry, unions, community services and sectoral organisations. Apparently, an additional $1.0 billion could add 200,000 more participants per year, representing a 35 percent to 40 percent increase.

HRDC's premise for expanding active policies is as follows: A large additional investment in employment development services over a period of time will progressively reduce the stock of people requiring intervention which accumulated during the last recession. Over the next five to seven years a 35 percent to 40 percent increase in the number of participants could significantly reduce the number of people requiring these services. If the intervention is effective, the individual will not need to return for more intervention. At the same time, other initiatives will reduce unemployment, long-term unemployment and the number of people receiving social assistance.

In expanding active policies, decisions about the type of intervention are important. Active policies can focus on supply side or demand side interventions. Supply side policies are important for three reasons: (i) a skilled and flexible labour force efficiently moves between jobs which reduces frictional unemployment, skills shortages and reliance on income support (ii) improved employability of individuals who have difficulty competing in the labour market reduces their ongoing dependency and (iii) a skilled workforce attracts more employers, thereby generating more labour demand. However, implementing more supply side policies often generates the question: training for what? In a area or period of a lack of jobs existing, demand side policies are more sensible.

HRDC argues that supply side policies are appropriate in periods of economic growth and buoyant labour demand. Demand side policies are appropriate in areas or periods of high unemployment. When deciding the type of intervention, the following factors should be considered: stage of the business cycle, capacity of program resources to handle expansions, adjustment needs of labour force, and whether the local economy demands more labour and/or a new mix of skills.

HRDC also points out some goals for reforming employment development services. These goals are as follows:

- Create opportunities for employment using both supply and demand side measures.
- Emphasise prevention - Preventing unemployment will reduce dependence on employment development services and income support. Prevention is achieved through two broad efforts: electronic systems facilitate matching by providing more efficient labour market information so people can anticipate and prepare for change; and increasing the amount and quality of workplace training so workers can learn and adapt to change.
- Address individual needs and local opportunities - Addressing the variety of needs presented by different people and local economies will produce more appropriate intervention (i.e. different solutions for different circumstances). This can be accomplished with up-front assessment and counselling, individually tailored action plans, and with better use of information technology. Addressing individual needs and local economies is facilitated by moving towards a *single window* employment service. A single window employment service is the co-ordination and co-location of federal and provincial labour market and income support programs.
- Mutual responsibility - Active measures should aim to remove the built in disincentives that encourage people to continue dependence. Suggested solutions include: linking income support to program participation; tracking individuals' progress by maintaining more contact; encouraging individuals to contribute to financing programs; and granting income contingent loans.
- Facilitate adaptation - Individuals can adapt to changing circumstances quickly when they are more flexible and mobile, and have acquired new skills. Adaptation is facilitated by building basic skills training (i.e. literacy and numeracy) into employment development services and developing skill standards at the industry level to make skills more transferable.
- Ensure effectiveness - Interventions are more effective when they are appropriate for the individual and local conditions. Moreover, program effectiveness is ensured by evaluating and responding to program impacts.
- Strengthen partnerships - Federal/provincial co-ordination is improved by implementing the single-window employment services, harmonising programs and

services, and granting a greater leadership role for provinces in planning programs. Public/private sector co-ordination involves encouraging the private sector to invest in skills while also using the private sector's expertise in estimating program needs.

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